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THE ARCHITECT

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Contract Reporter.

A WEEKLY

ILLUSTRATED JOURNAL

OF

ART,

CIVIL ENGINEERING,

AND

BUILDING.

"*There is a criterion of taste in Architecture as well as in the other liberal arts; genius is consistent with rules, and novelty is not necessarily an improvement.*"—P. HARDWICK.

VOL. LXIII.

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THE
ARCHITECT
AND CONTRACT REPORTER.
A JOURNAL OF ART, CIVIL ENGINEERING & BUILDING.

THE WEEK.

The anticipation of the late Mr. Henry Vaughan, the assiduous collector, presenting works of art to various public galleries has been realised. The list of his specific legacies to the National Gallery, the National Gallery of Ireland, the South Kensington Museum and other public institutions fills thirty folios. He bequeathed to the National Gallery the picture of *Christ on the Mount*, by Raphael, a picture by Sir Edwin Landseer, sketches by C. R. Leslie, twenty-two drawings in sepia by Turner, made by him for the "Liber Studiorum," a sketch in water-colour by Turner of the *Deck of the Victory*, a small sketch of the *Hay Wain* from nature by Constable, all of his pictures and sketches by Constable not otherwise disposed of by his will, all of the studies of pictures by Sir Joshua Reynolds and C. R. Leslie, excepting those otherwise bequeathed by his will, pictures by Stothard, statues of Sir Joshua Reynolds and Flaxman, a statue of Gainsborough, for which he bequeathed to the executors of his will 1,000*l.*, and the sculptor to be employed is to be of English birth. The trustees of the National Gallery may also select any others of Mr. Vaughan's pictures not otherwise bequeathed, and he left to the National Gallery in Dublin thirty-one drawings by Turner, and to the Royal Institution for the Encouragement of Fine Arts in Edinburgh thirty-five drawings by Turner. Amongst Mr. Vaughan's bequests to the South Kensington Museum are two pictures by Constable, the *Jumping Horse* and the *Hay Wain*, now on loan to the Museum, three large drawings or sketches by Turner, two other drawings by Turner, a basso relievo in white marble attributed to Donatello, and other works of much interest.

Ary Scheffer, the painter, was, during the reign of Louis Philippe, a most important man at the Tuileries. He was an agent in the promotion of that mysticism which the good Queen Amélie was assured would bring back security to France. A German by birth, he belonged to the ascetic school, and his pictures were supposed to be as persuasive as the sermons of Ravaignan or Lacordaire. But the public were not disposed to be converted by attenuated figures who appeared in the faintest of colours. Ary Scheffer was faithful to the Orléans family until the end came, and then he went into retirement. He must have been a good fellow, for many of the writers in France who were indifferent to a religious ideal—Jules Fanen was one—celebrated his qualities in many an essay. His name is now rarely mentioned, although a few survivors of the old school may think of him with gratitude for inspiring emotions which were only evanescent. His only daughter, Madame Marjolin Scheffer, has endeavoured to compensate for the neglect of amateurs. For about half a century she has been acquiring and garnering his works. She died lately, and has bequeathed all the religious pictures, family portraits, drawings, &c., to the Musée Dordrecht. To the Louvre she has left the picture of *Paul and Francesca* and six portraits. To the Portrait Gallery of Versailles she has also given six portraits, and the Musée Condé of Chantilly will receive a portrait of Princess Marie of Orléans, who was a pupil of the artist.

The acquisition of a portrait of Charles I. by Daniel Mytens for the National Portrait Gallery is satisfactory, for the artist held a peculiar position in London, and before the arrival of Vandyke he was the favourite of the Court. He held the office of "one of His Majesty's Picture-Drawers in Ordinary," with a fee of 20*l.* per annum. There are several of his works in Hampton Court. When he found himself supplanted by Vandyke he resolved to go back to Holland, but Charles I. informed him that he could find sufficient employment for two portrait-painters. Apparently he did not long remain with us, for in 1656 he executed part of the ceiling of the town-hall of The Hague, his subject being *Truth writing History on the Back of Fame.* The portrait of the king has been purchased from the Marquis of Normanby. A portrait of Queen Henrietta, which is also in the possession of his lordship, is to be purchased by Mr. H. L. Bischoffsheim and presented to the National Portrait Gallery.

A report on the education of students who aspire to be architects has been prepared by the American Institute of Architects. The provision for training is more detailed than is usually supposed. The Massachusetts Institute of Technology has equipped a department for architecture, increased accommodation is provided and many casts have been purchased in Europe. At Cornell the College of Architecture follows the system in use at the Ecolé des Beaux-Arts of Paris. There is one travelling scholarship and two resident scholarships. The University of Illinois has greatly increased its library, and it is superior in real value to any library in Chicago. Additional instructors have been engaged for the school of architecture at Columbia University. At Harvard a course of lectures on the "Theory of Design" has been founded. An anonymous donor has given 200,000 dols. for the department of architecture, of which one-half will be expended on a building. The various architectural clubs throughout the States, in order to secure efficiency, have formed a national organisation, "the Architectural League of America." After considering various aspects of the subject, the committee recommended:—(1) That a conference be invited with the Architectural League of America, looking, not to union, but to some form of official and friendly co operation; and (2) that the Institute immediately consider the advisability of taking steps to so change its by-laws as to require, after a specified date, say after January 1, 1905, graduation from some recognised architectural school, or the passage of examinations to be held by the Institute, as a prerequisite of membership, and that meanwhile both methods of admission be simultaneously in operation, it resting in the discretion of the board of directors to require in any given case that the candidate enter by the new method.

48837

Architecture.

A RETROSPECT AND A PROSPECT.

Whether the year 1900 ends an old or begins a new century need not give much trouble to architects. It has been often said, time is a resistless current, and no more than a great river it bears definite marks of division. With an art like architecture, which goes back to remote ages, it is only human to wish to show a relation between it and the centuries which are man's greatest groups of years and days. In the style which is supposed to come nearest to a national style, our Gothic, an effort was made to identify its various developments by describing them as twelfth-century work, thirteenth-century work and the like. But it was too apparent that changes of form were not manifested at the beginning of every hundred years, nor came to an end at the close of such periods. Norman, Early English, Decorated and Perpendicular, or even First Pointed, Second Pointed and so on, with all their anomalies, were preferred as signs of periods. The classification might be illogical, but it was better than to attempt to base so great an emanation of power as architecture on what was so instable as time, with seconds and minutes which may each have different characteristics. For all we know to the contrary, the designers of the Pyramids may often have thought over the flight of years and the brief tenure of existence which created beings were permitted to enjoy. If so, they gratified themselves by erecting masses of which no foresight, although aided by mathematics, could calculate the dissolution. "Forty centuries look down on you!" said Bonaparte to his troops. He might have added ten more centuries, and yet it is not impossible that 4,000 or 5,000 years hence the structures will be able to serve for another conqueror to utilise in order to impart emphasis to a warrior's address. If the ancient architects of Egypt can be conscious of the controversies which arise towards the close of each century, how amused they must be over efforts to escape prematurely from one small division of time to another. Eighteen hundred, with its divisions and subdivisions, is, however, at an end, and whether we are in a different century or remain as before, nineteen hundred has come, and will no doubt remain for the regulated period among men.

As times go, the eighteen hundreds could not be considered altogether commonplace. There were at the beginning bad examples of building in which Englishmen enjoyed the average amount of happiness, and which, therefore, might be taken as exemplifying what people desired in the way of architecture. A multitude of defects was covered by cement, which expressed its respectability by its drab colour. The houses were unpretentious, and made it plain to all who looked on them that Britons were indifferent to exterior appearance so long as they were comfortable within. But there were influences at work which even cement could not resist. The attempts to exhibit style were found to be unable to sustain the test which was offered by the plates of Stuart and Revett. Gothic was supposed to be superstitious at the time, while Classic was accepted as having some connection with the scholarship of Oxford and Cambridge. With patterns before them like those prepared from the buildings in Athens, what was the advantage in imitating those which were less refined? John Soane, with all his oddities, endeavoured to transform the Bank of England into something that would be reminiscent of Classic models; and when we remember that the larger part of his commission was the construction of a screen wall, it must be allowed that he went far towards realising his ideal. The Inwoods went a step further. St. Pancras Church is in its exterior a strange building, but it will always be evidence of the desire which prevailed among some men of the time to be thoroughly Greek regardless of all questions of fitness. Wilkins brought to the profession as much scholarship as Wren, but criticism arose about his time, and he was made to feel its effects more painfully than any of his predecessors, and few of those who followed him suffered more keenly. Then came the Smirkes, the elder of whom was supposed to be so sublime a genius that officialdom bowed down before him. Cockerell was formed with finer qualities, but he was fastidious and occasionally wanting in decision. Tite and Cockerell should have entered into a partnership, for one was strong where the other was weak. Tite contrived to make more money than any of his contemporaries, and he may be said to have created the City architect, who may be looked down upon by many, but always with more or less envy of his good fortune. The Classic of all these men differed, and suggested that if there is any use in experiments English architects were in a fair way to attain success, or to bring about a new style. Then came young Elmes, who had his own notion of a Classic style, but he was carried away before he was able to do more than give an indication of his power.

Charles Barry should be considered as representing the transition from the old severe Classic to an elegant type of Renaissance. He could be comparatively severe, as in the Reform Club and the College of Surgeons, but with the insight of genius he realised that the time demanded something more attractive. Barry would be a worthy peer of the Renaissance Italians, but he did more than any man of his century to promote a revival of Gothic. The parliamentary commissioners had hazy notions of a romantic building which could be claimed as peculiarly English. Barry would have preferred if they allowed some fine type of Italian, but he was too shrewd not to realise that however excellent might be his design, it could not succeed in that style. A plan was a plan, however, to him, and why should not his be adapted to flat Gothic arches instead of to semicircular ones? His action was fatal to the belief that plan and elevation should have some mysterious connection, and that the Gothic man should arrange corridors, halls, staircases, chambers large and small, doors and windows altogether differently to what an admirer of Italian buildings would do. It was a grand experiment, but the effect on English architecture was much less than was anticipated. For the failure, if we may call it so, the critics were to some extent responsible. They could not find the weak points which Wilkins had offered in his buildings, and, moreover, Barry was less thin-skinned. He was a Londoner, and could take his share of London chaffing, but the squabbles with Reid and other men of science and the projects of

Pugin to adorn the building were easily turned to account. People drew the conclusion that Gothic was necessarily unscientific and sufficiently costly to bring ruin on those who selected it for a style.

The revolutionary year 1848 was not favourable to the discussion of questions of æsthetics. When the conflicts were over there was a new excitement—the Exhibition of 1851. It was generally supposed that architects had proved themselves incompetent to deal with novel conditions. Paxton was allowed to carry off the prize amidst general acclamation. The state of feeling at the time can be judged from the satire which was poured out on Owen Jones's experiments in polychromy. His primary colours imparted artistic quality to what would otherwise have been a monotonous shed, but he was an architect and assumed by the public to be a faddist. Digby Wyatt, who was another true artist, and whose immense knowledge and fine taste were employed in a thousand ways, was ostensibly no more than a secretary. Jones and Wyatt both expected to win success, but their time never arrived. Jones was willing to turn his hand to anything artistic, and most cheerfully designed the backs of playing-cards and the labels of biscuit-boxes. Digby Wyatt was willing to give advice as a connoisseur.

The militant spirit, which was not strong in Barry, was exhibited in Pugin, who consumed himself by his feverish efforts to compel people to reject all styles but Gothic. When we remember he was a Roman Catholic, it seems like magic or miracle that he was able to find the means for the erection of so many remarkable churches. His Gothic was *sui generis*. If architecture should be the expression of a designer's individuality, then in spite of its numerous faults Pugin's work is entitled to commendation. His enthusiasm was contagious, and Scott spoke of him with more admiration than he ever uttered of a contemporary. Scott took up Gothic under different conditions. His utilising of existing examples was considered to be the result of the utmost reverence. There could be no doubt that Scott studied Mediæval buildings with greater thoroughness than had been shown by any other architect before him. His style was refined, but somewhat cold. It is creditable that among all the pupils and assistants he taught, not one of them was brought up to a slavish imitation of his mannerisms. There was warmer blood in Street, and it produced the effect of a greater display of liberty. Scott would design a foreign building in foreign Gothic, but Street was not afraid of the consequences of using foreign patterns in English churches. The ordinary critics could not be severe on Gothic churches, but the religious sentiment of England would rebel against so much liberty. But a new class of critics arose, ecclesiologists and Camdenites, who aimed at the possession of a power which was novel. Mr. Waterhouse demonstrated the fitness of Gothic for secular buildings, and the praise bestowed by lawyers on his Manchester Courts aided in extending its use. Other men were able to work on similar lines, but without imitation, and one of the ablest among them, William Burges, has left fewer buildings than Cockerell to demonstrate his skill. What was expected to be the crowning achievement of the style—the Law Courts in the Strand—was not considered satisfactory by lawyers or litigants, and the public was prepared for a new experiment, viz. Queen Anne.

We have already said that changes of style do not inevitably occur at the beginning of a century. For many years it was prophesied that the style which was characteristic of the eighteenth century would not outlast the nineteenth. Trifles have been magnified into influential causes, but we must honestly say we see no shadow of the coming transformation. It is evident that during the whole of the nineteenth century there has been a continual series of experiments, and differences have arisen between men's work which, if not signs of originality, come very near to it. There is no reason why the efforts should cease. New materials, new appliances, a more extended dexterity among several classes of workmen must aid in the production of more numerous experiments than ever. They cannot all be successful, and it will be well, perhaps, if many of them are forgotten without any imitation of their weaknesses. Some combatants are destined to fall in all struggles, but their loss does not bring contempt on the cause they represented. It is so in architecture.

ARCHITECTURE IN 1899.

As we look back upon the past year and endeavour to summarise its characteristics, we think that the feeling that will inspire most of our readers is rather one of calm satisfaction than of jubilant exhilaration. Whether we regard the last twelve months as concerning the art of architecture or the business of architects, it must be admitted that the review is on the whole encouraging, without stirring sensation or keen controversy in the domain of art, neither intensely energetic nor depressingly quiet in the world of business.

In the art of architecture the most important event of the year has been probably the production of the designs for the new Government Offices by Mr. J. M. Brydon and Mr. W. Young, which, remarkable for their restraint and dignity, will certainly add to the impressiveness of the official thoroughfare of the Metropolis, without overwhelming or even conflicting with the notable buildings already existing in Whitehall and Parliament Street. In our other great centre of governmental buildings, South Kensington, the past year has seen progress made with the completion of the Victoria and Albert Museum and the Royal College of Science, both examples of the ability of Mr. Aston Webb, whom the Royal Academy has, within the last twelve months, justly, if somewhat tardily, numbered amongst its Associates, an honour of which the greater share redounds to the credit of the Academy than to the art of architecture. The mention of Mr. Webb's name reminds us that during the past year substantial progress has been made with that gentleman's able design for the new school buildings of Christ's Hospital at Horsham, though the year 1899 cannot claim the credit of either the inception or the completion of this great scheme, or of the Britannia Royal Naval College, Dartmouth, also from Mr. Webb's design.

Similarly, progress rather than commencement or finish has been seen in other notable buildings of the century, as the Cardiff Town Hall, from the designs of Messrs. Lanchester, Stewart & Rickards; the Belfast Town Hall, by Mr. A. B. Thomas; and Mr. Mountford's buildings at Liverpool. But in Manchester, on the other hand, we have seen the opening of that beautiful building, the Rylands Library, designed by Mr. Basil Champneys, enriched with sculpture and modelling by Mr. George Frampton, Mr. Cassidy and Mr. Bridgeman, and with stained-glass by Mr. Kempe.

In ecclesiastical building there has been throughout the country a parallel to the remarkable diminution of activity pointed out by the Archdeacon of Manchester as occurring in that diocese, when he stated in his charge, delivered in April, that between 1890 and 1898 only two churches were built at a cost of 10,400*l.*, whereas between 1880 and 1889 fifteen were erected at a cost of 100,950*l.*, and between 1870 and 1879 there were twenty-one, with an outlay of 168,000*l.* The facts indicated by these figures, that both the number of churches being built and the average sums spent on them are now very remarkably less than was the case twenty or thirty years ago, are borne out by the experience of all architects whose practice has been principally concerned with ecclesiastical work. During the past year we have repeatedly heard of such unworthy church building schemes as the erection of buildings to seat about 300 persons at a cost of 5*l.* per sitting. When the clergy can offer architects no better problems than this, it cannot be surprising that amongst our younger generation of architects the study of our beautiful national Mediæval architecture is, as it is, most lamentably on the wane. As another instance of the poverty or callousness of the Church in the past year to the art of architecture, we may instance the scheme for the spoliation of the forecourt of the church of St. Dunstan in the West, which, in spite of expert evidence, even the man in the street cannot but recognise as a readiness to sacrifice art to mammon. Although, apparently, the Church cannot or will not find money for the erection of places of worship, it is remarkable that during the past year we have had to record the acceptance of a tender at 18,967*l.* for the erection of the archiepiscopal palace at Canterbury, and the commencement of the erection of a diocesan church-house at Liverpool, the cost of the first portion of which is estimated at 15,000*l.*, and that of the whole at 30,000*l.* Is the Church so unable to maintain its hold on the people that it needs no more churches, and is it unable to fill those it has, or are we face to face with a recrudescence of the spirit of the clergy of France during the Early Renaissance period, which led them to build châteaux rather than churches?

It is but fair to record the commencement during the past year of the building of a new cathedral at Belfast, in which Mr. Thomas Drew, R.H.A., the architect, assisted by the advice of Mr. W. H. Lynn, R.H.A., has produced a remarkable plan, departing in motif from the Mediæval cathedral type, with the laudable intention of producing a building suitable for and adapted to the modern conception and use of a cathedral.

The new Roman Catholic Cathedral of Westminster is amongst those buildings which, important in the architectural history of the century, have marked the past year by progress rather than commencement or completion.

During the past year also the decoration of our metropolitan cathedral of St. Paul has been in progress, and has excited almost the only discordant note in the artistic world of architecture. Certainly there is some justification for those who hold the opinions expressed in the protest of the Society for the Protection of Ancient Buildings, but the spirit in which such protests are received by those who are the temporary trustees of national monuments and property, rather than irresponsible freeholders, augurs ill for any other consideration on their part than the financial possibility of their pet projects and ideas.

Although the ability of the ecclesiastical architects of England has not now the adequate opportunities of expression that it deserves, it is gratifying to note its appreciation by such action as the inclusion of Mr. G. F. Bodley, A.R.A., in the jury to whom was entrusted the task of deciding the competition, limited to Austrian subjects, for the memorial church to be erected in Vienna in commemoration of the jubilee of the Emperor Francis Joseph. By his professional brethren also the past year has seen the recognition of Mr. Bodley's genius in the recommendation by the Royal Institute of that artist as the recipient of the Royal Gold Medal, and in the enthusiastic attendance of members on the occasion of its presentation.

The exhibition of the Royal Academy in its bearing on architecture indicated that the greatest activity in artistic work is at present displayed in domestic building, but that in some cases architects do now produce designs for buildings which, though intended to prove commercially sound investments, have yet sufficient artistic character to justify admission to the sacred temple of the Royal Academy. Public buildings were not over-well represented, and Government buildings not at all, with the exception of Mr. Aston Webb's design for the Britannia Royal Naval College at Dartmouth.

In style of design, as shown by the works exhibited at the Royal Academy as well as by students' work at the various educational centres, the past year has seen that, whilst the work of the eighteenth century has furnished the inspiration for much of our fin-de-siècle design, there is an increasing tendency, particularly amongst our younger designers and those who are feeling the impetus of the "arts and crafts" movement, to break away from tradition and archæological bases of design, and to be, at any cost, original. The originality is often closely allied to eccentricity, but it is satisfactory to note a masculine virility in much of our modern design, which almost insensibly recalls the feeling of the best Mediæval work of our country and of the best days of the Gothic revival. The latest phase of design in this century is indeed Gothic in its essence, Gothic not by plagiarism of Mediæval forms, though even in line and form there is a striking affinity between fifteenth-century work and that of the disciples of arts and crafts, but Gothic by revival of strength united to grace in design, powerful, tender and true.

The past year has given us once again a repetition of the Arts and Crafts Exhibition, and enabled us to see that what was originally a movement has now crystallised into a school of design, at the same time rightly affording the British public an opportunity of learning that art is not merely an affair of pictures and sculpture, but should be and is intimately connected with the production of beautiful work in objects of everyday use. The original intention of the movement, that artistic products of the craftsman were to be treated like pictures and statuary, as isolated and individual works of art, has, however, given way in some degree to the view of the manufacturer, that artistic furniture and so on for the people can only be possible in our modern life by duplication and multiplication of pattern. The feature of the exhibition was the collection of drawings for hangings and wall-papers, manuscripts and costly printed books produced by the late William Morris. Of scarcely less importance and interest were the works of Mr. Walter Crane, the president of the Society.

Of entirely different character and intention, though no less, even if not more, useful in its way, was the Building Trades Exhibition at the Agricultural Hall, London, with which we were favoured during the past year. Here the practical, constructional and business side of architecture was manifest, and we were enabled to mark the advance made in these directions. The activity of our manufacturers was well represented, and a most comprehensive collection of specialties in building construction and material was brought together, superior probably to anything previously seen in this country, and reflecting the greatest credit on the organiser, Mr. Greville Montgomery. That the exhibition was appreciated by those for whom it was intended was shown by the organised visits made by the members of the Surveyors' Institution, Architectural Association, Society of Architects, Institute of Builders, Municipal and County Engineers and Sanitary Inspectors' Association, as well as by the support accorded by leading members of the architectural profession to Professor Aitchison, president of the Royal Institute of British Architects, on the occasion of his opening the exhibition. Many novelties were to be seen, as well as examples of well-known and old-established manufactures, whilst the new departure in the exhibition of materials and methods connected with road-making and other municipal work was one of especial interest.

As a further contrast to the Arts and Crafts Exhibition may be instanced the Furnishing Trades Exhibition, also held during the past year in the Agricultural Hall—a lamentable example of the utter absence of all artistic feeling that may be expected from the predominance of the mercantile instinct to pander to the prevailing taste, or rather lack of taste, for vulgar display and ostentation, the desire of the many to ape that which they cannot possibly afford. If the Arts and Crafts Exhibition tends too much in its conception to restrict the enjoyment of art to the rich and cultured, the Furnishing Trades' Exhibition unmistakably aimed at ministering to the depravity of snobbery, poor but house-proud.

Yet one other exhibition have we to note in the past year—that in connection with the Sanitary Congress held at Southampton. Here were seen the latest improvements in the ever advancing science of sanitation, in which our leading specialists amongst the manufacturers fully maintained their reputation for progress.

Our consideration of the various exhibitions held during the past year has led us on from the artistic to the practical and business aspect of architecture. As business, the profession of architecture has had during the past year a good share of the general prosperity of the country, at least in the earlier months of 1899. Towards the end of the year the great war in which we are engaged and the dearness of money, evidenced by the high Bank rate, have given a check to all building for which speculation or the desire of profit furnishes an incentive, and the bulk of the work now in the hands of the profession has suffered therefore a material diminution. The effect of this is, however, rather to be expected in the future than seen in the past, and we still note going on around us that rebuilding of London and other large towns which cheap money and the accumulation of wealth and paucity of investment which cheap money implies have rendered possible and profitable. As striking examples of this rebuilding may be mentioned the buildings of the Birkbeck Bank, whose acceptance of a tender at 139,200*l.* for the Holborn frontage we have chronicled, and the still more remarkable scheme of the Prudential Assurance Company, which will together transform the appearance of Holborn Bars almost beyond recognition. The completion of the Carlton Hotel and of the terminus of the Great Central Railway are but two examples amongst many around us which go far to explain the increase in the cost of building materials, particularly in the Metropolis, and the abnormal activity in the building trade which is only now beginning to pause.

The past year has probably seen the end of the boom that the profession has experienced in two branches of its work, the rebuilding of public-houses and the erection of suburban and provincial theatres and music-halls. There are unmistakable signs that in both of these forms of investment the profitable nature of the business has been over-discounted, and that the goose that laid the golden eggs is, if not killed, in urgent need of rest and recuperation.

Those branches of specialist work which, however, do not depend upon the wealth and luxury of the people, but upon their poverty and misfortune, appear to be in no danger of a cessation of activity. Our pages have during the past year continually recorded the expenditure of immense sums of money on asylums, workhouses and hospitals. The poor we have always with us, and these evidences of the frailty of our people show no sign of diminution.

An important and perplexing problem that has engaged the attention of the London County Council and other local authorities both in the Metropolis and in the provinces is that of the housing of the working classes. The London County Council has confessed its inability under existing circumstances to provide decent homes for the people without practically pauperising their tenants by throwing part of the cost on the rates. Mr. Alderman Lemon, in a paper read at the Sanitary Congress, has put the case in a nutshell, pointing out the experience of Southampton, that in building workmen's homes within the town the cost of the site renders inevitable a loss to the ratepayers, an experience similar to that of the Corporation of Liverpool. Alderman Lemon also pointed out that the erection of large blocks of buildings in the centres of industry is not the right solution of the problem, and advocated the transference of the working classes to the suburbs, coupled with the provision of adequate travelling facilities by tramways or light railways. This is the conclusion at which the London County Council have also arrived, and their next endeavour is to obtain powers to enable them to work on these lines, which, as they are legally advised, is now outside the scope of their potentiality. Authorities in the outer ring of London find themselves able to provide houses for the working classes in their districts, as is shown by the action of the Finchley District Council and the Hornsey District Council, who have completed one scheme at a cost of 25,601*l*., and during the past year have accepted a tender which, with roads and land, will involve an expenditure of 16,700*l*. The Shoreditch Vestry have also contrived to carry through a scheme at a cost of 23,000*l*., which promises to pay interest at 3 per cent., and to set by an annual sum to repay the capital in sixty years at 2½ per cent.

During the past year the building trade has probably suffered less than usual from the paralysing influence of strikes, though at one time a dispute with the plasterers promised to attain ugly dimensions. It is hoped that the Conciliation Board, whose projection we recorded in September, will be able to keep us free from the heart-burning and loss to both employers and workmen that the barbarous system of strikes has in the past entailed.

Our law courts have been frequently concerned in the past year with the determination of the extent of employers' liability and the limitation of workmen's claims. Some curious decisions and still more curious demands have been chronicled, but at least progress has been made towards a definite basis on which employers may gauge their responsibility.

Architects, too, have had some severe lessons as to their responsibility, which tend to show that negligence is something more than a mere bogey, but may be, and has been brought home to members of the profession to their serious loss. When dry rot and inaccurate quantities are held as sufficient evidence of negligence, it behoves architects to be careful. Every quantity surveyor is aware that he may be charged for deficiency in his quantities, and few amongst large practitioners in this special department of business have escaped being mulcted for clerical errors, but the past year has shown that excess in quantities may be equally dangerous, though, from the circumstances, less frequently brought home. Pity it is that the usual remuneration of architects is insufficient to recompense the actual expenditure of time and labour, let alone the incurrence of responsibility from which ordinary carefulness cannot always insure immunity. In valuation work, for example, as also in quantity surveying, the payment is more than ample for the actual work and skill, but allows a just, though not extravagant, margin for the responsibility assumed. In architectural design and superintendence the customary 5 per cent. is more often than not no adequate reward for the mere labour and thought required. What wonder then if there are some black sheep in the profession, against whom and their practices Lord Russell directed his efforts in Parliament during the past year?

The Society of Architects has continued pegging away at the question of registration, with similar intent though in a greater degree to Lord Russell—the intent of weeding the profession as far as possible of incapable members, by whom, for the most part, dishonourable and dishonest methods are practised. Registration has assisted in diminishing the number, even though not altogether clearing the ground, of shady practitioners in other professions, and undoubtedly would do good in architecture. Therefore we hope the Society will persevere and keep on pegging away, despite the apathy of many and the opposition of others.

Our other great architectural societies, the Royal Institute of British Architects and the Architectural Association, have been able to put forward satisfactory reports of their condition. The Royal Institute now numbers 1,663 subscribing members and has invested 1,500*l*. in Tasmanian Government Three-and-a-Half per Cent. Stock. The Architectural Association at its opening meeting of the session attained a record membership of over 1,250, and added 224*l*. to its capital account.

The new association connected with architecture, the British Fire-prevention Committee, has justified its existence by obtaining incorporation and carrying out a valuable series of scientific tests of fire-resisting construction and materials. Notes on the reports have appeared from time to time in our pages.

The iron trade is so intimately connected with architecture in the present day that the agitation amongst some of the leading manufacturers in favour of the abolition of the system of discounts which has taken place during the past year cannot be ignored. The vital importance of the question, and the prominent part that discounts play not only in the iron and steel trades, but also in all hardware trades connected with building and, in fact, in almost every department concerned with the supply of building materials, render the subject of considerable interest; but the natural opposition of merchants and middlemen generally, whose assistance in the distribution of material is almost, if not quite, indispensable, appears likely to be too strong for any radical alteration of our existing system.

Our reference to the iron trade reminds us of a shining example in these days of rascally company promotion of a praiseworthy exception, connected with architecture, in the flotation of the well-known firm of Measures Bros. We hope that many of our readers are in the happy position of original shareholders, whose 1*l*. shares have been quoted at 1⅞–2.

In competitions the past year has not been unduly favoured. The great international competition for the Californian University has seen English architects quite out in the cold. A Frenchman, M. Henri Jean Emile Bénard, obtained the first prize, and Americans the remainder. From what we hear, we cannot admit this apparent defeat of our countrymen as an evidence of incapacity, but rather of too profitable employment to allow of adequate effort in so important a contest. We have come across many instances of able designers in our ranks who were too well occupied and too full of work to undertake the labour of preparing worthy designs.

Amongst the more important competitions of a year not very remarkable in this direction have been that for a fire-brigade station at Bradford, won by Messrs. Mawson & Hudson; for the Cartwright Hall at Bradford, won by Messrs. Simpson & Milner Allen; for baths at St. Pancras, won by Mr. T. W. Aldwinckle; for municipal buildings at Plumstead, won by Mr. A. B. Thomas; for the offices of the Midlothian County Council, in which the assessor's award of first place to Messrs. J. N. Scott & A. Lorne Campbell was set aside by the County Council in favour of the design by Mr. J. Macintyre Henry. The most important competition of the year, that for the new Sessions House, Old Bailey, limited to six architects nominated by the Council of the Royal Institute of British Architects, still remains undecided, although the drawings have been sent in. From the calibre of the selected architects, we expect to see some noteworthy designs in this competition.

The obituary of the past year deals lightly with the architectural profession. Sir Arthur Blomfield (whose portrait appeared in our issue of November 3, 1899), Professor Banister Fletcher, Mr. Charles Bell and Mr. W. W. Pocock have been amongst the most serious losses in the ranks of those eminent in their several spheres.

Appointments of importance during the past year have been those of Mr. W. E. Riley, as superintending architect of the London County Council; Mr. C. E. Dance, as surveyor to the Metropolitan Asylums Board; and Mr. R. Elsey Smith, as Professor of Architecture at King's College.

THE ELECTRICAL INDUSTRY DURING 1899.

By F. J. Warden-Stevens, A.M.I.E.E.

(Consulting Engineer.)

THE year just past has been to some extent an eventful one as concerning the electrical industry, and I therefore propose to briefly review in these columns the principal occurrences.

Considering first the legislation relating to electricity undertakings, it is to be noted that the Electric Lighting (Clauses) Act, 1899, came into force in October. This Act has not the effect of amending the previous Electric Lighting Acts of 1882 and 1888 to any extent, but consists of the clauses contained in the usual provisional orders previously granted under the Acts, and has been introduced with the object of shortening individual orders, the Act being scheduled to the Bill of the orders, which contain only the variations. An important clause, however, which was contained in orders granted to local authorities is now omitted, viz. that giving local authorities the power to transfer the order to a company. The effect of this amendment will, I venture to think, be that fewer orders will be granted to local authorities and a greater number to companies, and local authorities will not be so easily able to obtain orders with the sole object of keeping a company out of the field of electricity supply and checking the development, which should be increased considerably by the new Act. It is, however, still possible for a local authority to lease its order for a term of years to a company, but it must be remembered that the local authority will be the official undertakers, and the company can only obtain the privileges through the local authority, whereas the orders obtained previously could be transferred entirely to a company.

In connection with municipal enterprise, it is to be noted that during the last year there has been an attempt to extend the powers of municipalities with regard to trading. Some municipalities have, in omnibus Bills, obtained powers to act as contractors for carrying out the wiring and fittings on consumers' premises, and others have without such powers undertaken this work. This municipal competition in trade has largely assisted the present agitation against municipal control of works in general, and there is now a strong feeling that the powers of municipalities with regard to trading should be strictly confined to the control of works such as the supply of water, electricity and gas, or other matters which are materially monopolies, and to carrying out work for themselves only, and that the municipalities should be prevented from competing with the ordinary trade in fitting-up premises with water or gaspipes, and the installation of wiring and fittings for electricity in houses.

There are already to be observed the following rules relating to the last named, which differ very considerably, namely, Board of Trade regulations, supply authorities' rules, and fire offices rules; and the present feeling is very strongly in the direction of reducing these rules to standard Board of Trade rules for safety of supply and the public benefit, and standard rules to satisfy all the fire offices.

Proceeding to the question of telephones, an important if not lengthy Act came into force in August last, viz. the Telegraph Act, 1899. This Act gives the power of competition with regard to the telephone service, which should certainly tend to increased use and lower charges.

According to this Act, apart from the question of a Government service, a local authority or company may obtain a license from the Postmaster-General for the purpose of establishing an independent service of telephonic communication within a town. It appears to me, however, that independent telephone services with their different subscribers will not be that convenience to such subscribers unless an inter-connection is compulsory, which a universal Government service similar to that with the telegraphs would be, and there will probably be the same inconvenience in obtaining connections with the different services as there is now with the National Company's system in obtaining connections with the trunk lines. It is, however, worthy of note that the Government are themselves establishing a competitive service in London and the suburbs, so as regards this part of the country it is to be hoped that the telephone service will be improved, especially as I believe the Government service will be in communication with the National Telephone Company's.

The visit of the Institution of Electrical Engineers to Switzerland during the year will no doubt have its effect in showing the development open for electricity supply from large works over considerable areas. It must, however, be borne in mind that the conditions existing here are not similar to those in Switzerland. For instance, our principal source of power here is coal, whereas in Switzerland water takes its place. In the former we transport our energy without any connecting link, apart from the railway or the sea, whereas in the latter the power must be generated on the spot, and conveyed where required usually in the form of electricity. It can therefore be seen that the Swiss have had to develop a system of electrical transmission over considerable distances, whereas it has not been necessary in our case. The electrical system which has had to be developed for that purpose has been the high-pressure alternating, but two or three phase, not single phase, which has been used in this country on account of our having to deal principally with lighting.

Now, however, that the tendency is to erect works at the pit's mouth and convey electricity over an area of many miles, and for industrial power purposes as well as lighting, it necessitates our considering polyphase working as being more suitable for the service required.

There are now several large transmission schemes projected and in a fair way to be realised in this country, and they are practically confined to distribution of electricity in and around our coalfields. As so much engineering work is carried on in these districts the schemes are chiefly for power supply, but lighting and tramway work is also being combined with the power. The various local authorities are in some cases to receive power in bulk for local distribution for general supply. There is a scheme far advanced for supply in South Staffordshire, others in Yorkshire, Nottinghamshire and Lancashire, and it may be mentioned that the Manchester Corporation are now erecting a large works from which electricity will be transmitted on the three-phase system to sub-stations in adjoining districts, and there transformed suitable for supply to private consumers.

That important body the London County Council has during the past year taken steps which prove that it has decided to take an active part in electrical development. Amongst the decisions which it has already acted upon, or proposes to shortly, may be mentioned the lighting by electricity of the Victoria Embankment and Westminster Bridge, which will be a considerable and necessary improvement, and should be an accomplished fact shortly.

Again, it has approved of the London United Tramways Bill, by which that company has power to enter the area under the control of the County Council and to convert the present system running from Hammersmith through Chiswick to Kew Bridge and to extend to Brentford and Hounslow; also to convert the existing line from Kew

Bridge to Richmond, providing the length of line from Young's Corner to Hammersmith Broadway is carried out on the underground conduit system and not the overhead trolley system, as will be the case with the remainder of the route. The lines from Shepherd's Bush to Acton and along the Goldhawk Road connecting the Hammersmith and Shepherd's Bush lines are also to be converted, and an extension line is to be constructed from Brentford northwards to connect up with Hounslow. A light railway in addition is to be constructed from Hanwell to Uxbridge, running through Southall, Hayes and Hillingdon, a distance of 7 miles.

There is no doubt that we shall see in the next year or two an enormous amount of electric tramway work in London carried out by the County Council, and London will, it is hoped, be freed from the stigma under which it now suffers of being the most backward city existing with regard to tramway communication. It might also be mentioned that underground electric railways are developing rapidly. The Central London Railway is nearly completed and will be shortly opened; the Baker Street and Waterloo Railway is well in hand, as also is the Great Northern and City Railway, while an important experiment, if it may be so called, is about to be carried out on a portion of the District Railway between Earl's Court and High Street, Kensington. The original electric railway from Stockwell to London Bridge has been extended to the Bank, and the latter will now be a central station into which three lines will run—the Central London, the City and Waterloo and the City and South London lines. The new subways at the Mansion House will be a great convenience, which are being opened as a direct consequence of these electric railway enterprises.

Competition in electricity supply has been brought under notice by a somewhat peculiar case, viz. that of the City of London Company and the Corporation. The Charing Cross Company have obtained powers to compete in the City, and although the Corporation had an agreement with the City Company, they did not oppose the application. There was in this connection a very interesting point raised, namely, the extent to which an agreement is binding on a corporation. It appears that the agreement between a company and a corporation is rendered null if a member of the corporation who votes on the motion approving the agreement is interested financially in the company.

One of the most extraordinary electrical developments of the year is that of wireless telegraphy, although it must not be forgotten that Sir W. H. Preece had carried out previously successful experiments in this direction. A company is established for working the Marconi system, which has demonstrated very clearly its practicability and adaptability for many purposes. Communications of a reliable nature have been established over long distances, chiefly on the sea coast between England and France, between shore and ship, ship and ship, and lighthouse and shore. There is no doubt that for wireless telegraphy there is a great future in the maintenance of communication between points where a permanent wire or cable cannot be laid, for warnings between ship and ship in bad weather, and for warnings to ships of dangerous points on the coast, in fogs, and in the solution of the difficulties, on which considerable expenditure has been involved, in communication between isolated lighthouses and lightships and shore in all kinds of weather. The system is also useful for the establishment of temporary communication where the service is not required for sufficient time to allow of a wire being laid, even if it is possible to do so.

A new departure in electric lamps has appeared in the Nernst light, which no doubt is destined to cheapen electric lighting, and should prove especially suitable for street lighting or such cases in which the incandescent lamp gives insufficient illumination, and the ordinary arc lamp an excess, or in other words, it should prove a useful medium between the arc and incandescent lamp.

The Nernst lamp consists essentially of a rod of magnesia, or of one of the many other substances which are when cold non-conductors of electricity, but when heated allow of a passage of electricity. With this lamp the heat necessary for making the rod a conductor of electricity may be obtained from an outside source, such as a taper or lamp, but to render it automatic a resistance is employed, which, on switching on the current, heats the rod to a sufficient extent and is then cut out of circuit. The great advantage with this lamp will be its high efficiency, owing to the increased temperature obtained when compared with the incandescent lamp. Another advantage is that a vacuum is not essential to its life, and although when first installed the cost will be greater than the ordinary incandescent lamp, on account of the automatic heating device, yet it must be borne in mind that this heating device will not require renewal with the lamp, so the maintenance rate should be less; also it will not be affected by the variation in pressure, as is the case with the incandescent lamp. The Nernst lamp should really act towards electric lighting in a similar manner as the Welsbach mantle has to gas. This lamp has, however, not yet been placed on the English market, owing partly no doubt to the desire to perfect a cheap yet reliable form of automatic heating arrangement.

Referring to the questions of progress and competition, one is concerned at the important contracts that have gone to foreign firms in the past year. But we must not forget that this tends to progress, and should point out clearly to British firms that in order not to be left behind, and that English supremacy in electrical engineering may be maintained, they must go ahead in the development of their works and by standardisation, to enable rapid output to be complied with. As regards electric-tramway undertakings, we realise that America has had far more experience with these, and that we have only recently commenced to develop in this direction, so it was only to be expected that important contracts would pass from British firms; but, on the other hand, it must be remembered that British firms are quite as capable of building plant for tramways as any other. All that is necessary for success is that firms will not attempt to force buyers to accept ordinary plant for tramway purposes which is suitable only for lighting work. Now, however, that conservatism has given way to progress we may hope in a short time to see electric-tramway undertakings entirely English equipped. The British plant, if adapted for the particular work in hand, will be, there is little doubt, equal to or superior to foreign plant, as the present lighting plant is.

With further reference to the electrical industry, there has to be recorded a continuous rise in prices of raw materials, which has rendered estimates of a few months ago now useless. In almost every branch the rise in prices has been from 15 to 20 per cent., and in some cases even more. It is rather difficult to say whether this is a good or bad tendency, but it is certain that the independent feeling amongst contracting firms in this country as to delivery and price, fostered by the large amount of orders coming in, will cause a seriously large amount of work to leave this country. This proportionate loss of trade will not be felt now while every firm is busy, but should trade become less brisk the effects will be felt very seriously. It would surely be preferable for firms to do their best to execute orders, even if only to prevent them from going abroad, with the attending prospect of future losses.

Amongst the new electricity works opened during the year may be mentioned those at Ashton, Alderley and Wilmslow, Eccles, Salisbury, Plymouth, High Wycombe, West Ham, St. Helens, Barking, Lynn, Watford, Newington, Carlisle, Llandudno, Darwen, Bootle, Greenock, Hereford, Barrow-in-Furness, Lynn, Canterbury, and Leith.

The new electric tramway undertakings include:—Ashton, Halifax, Plymouth, St. Helens, Blackburn, Blackpool, Hull, Sheffield, Dudley and Stourbridge.

I am afraid limit of space in this important issue has prevented me from dealing further with other matters which are of considerable importance, but I hope during the coming year to deal separately of them. It will, I feel sure, be realised that my subject was of sufficient importance to fill a far greater space, but I venture to hope that the points I have touched upon in these columns will prove of interest.

Sir Charles Cameron, the medical officer of health for Dublin, will read a paper before the Irish Architectural Association on "Pigments" on the 9th inst.

VIEW NEAR WESTMINSTER ABBEY, SIXTY YEARS AGO.

WESTMINSTER ABBEY.*

THE charming writer who is accepted as the model of a style "familiar but not coarse, and elegant but not ostentatious," Joseph Addison, was not a lover of Gothic architecture. Compared with Classic he considered it was mean, and that, no matter how large might be the building, it could not strike the spectator with any sense of grandeur. But he was compelled to own the solemnity of Westminster Abbey. It was, however, with the church as a cemetery rather than as a work of architecture he was impressed. After entertaining himself with gazing on the digging of a grave within the Abbey, and seeing in every shovelful that was thrown up some fragment of a human body, Addison tells us he began to consider "what innumerable multitudes of people lay confused together under the pavement of that ancient cathedral; how men and women, friends and enemies, priests and soldiers, monks and prebendaries were crumbled amongst one another and blended together in the same common mass; how beauty, strength and youth, with old age, weakness and deformity, lay undistinguished in the same promiscuous heap of matter." The consideration of the tombs appeared to be so happy a subject for an essay, Addison describes a second visit to the Abbey with his friend Sir Roger de Coverley. On this occasion we have a more humorous aspect of the English Campo Santo as illustrated by Sir Richard Baker's "Chronicle," which was the favourite book of reference of the Worcestershire knight. Sir Roger was surprised that the historian described a great many kings whose monuments he had not seen in the Abbey, although they were numerous enough, and Addison said he could not but be pleased to see his friend show such an honest passion for the glory of his country, and such a respectful gratitude to the memory of its princes.

Addison was not the first to discover how easily reflections arose among the tombs of Westminster. Long before moralists in prose and verse discoursed about the lessons which were to be taught there. Francis Beaumont described it succinctly when he said :—

Here's an acre sown indeed
With the richest, royal'st seed
That the earth did e'er suck in
Since the first man died for sin.
Here the bones of birth have cried,
Though gods they were, as men they died :
Here are sands, ignoble things,
Dropt from the ruined sides of kings.
Here's a world of pomp and state
Buried in dust, once dead by fate.

Similar reflections can be found in various writings up to the present time, and there is no Campo Santo in the world which is better adapted to serve as an illustration of the vanity of vanities which pervades human life in all degrees.

While we must admit the appropriateness of the moralities which can be drawn from so many monuments, it cannot be denied that they receive an excess of attention. The historical and architectural interest of Westminster Abbey is too generally overlooked in the consideration it receives as a national mausoleum. For at least six centuries the Abbey has had an importance beyond any of the English cathedrals. From the fact that it was associated with the coronation as well as with the burial of kings, it could hardly fail to hold an important place in English annals.

The architectural merit of a building which the late G. E. Street described as "the most lovely and lovable thing in Christendom" is only appreciated in a vague way by visitors whose attention is attracted by the memorials of the dead, most of them being in a style which interferes with the repose of the building. So many of these works are out of place, and especially those which reveal the vanity of the people for whose glorification they were erected, it would be a salutary act if at least nine-tenths of them were removed elsewhere. The appearance of the Abbey would then become more interesting, and more in keeping with the solemn rites which are celebrated within it. Meanwhile an endeavour should be made to reveal by the aid of illustrations the beauty of the architecture, which is neglected by the crowds who find a toilsome pleasure in going the rounds of the monuments. The effect on them eventually becomes oppressive. Washington Irving, who was not deficient in intellect or sympathy, was obliged to acknowledge that his perambulation of the Abbey was a failure. "I endeavoured," he said, "to form some arrangement in my mind of the objects I had been contemplating, but they were already fallen into indistinctness and confusion. Names, inscriptions, trophies had all become confounded in recollection, though I had scarcely taken my foot from off the threshold." Much stronger words would have to be used to describe the experience of the majority of the visitors. But if their brains are in a muddled state about the monuments on which their eyes have been fixed, we may assume that they carry away the haziest notion of the architecture.

It is difficult to say when a church was first founded on Thorney Island. The legend runs that St. Peter returned to earth in order to consecrate the Abbey which King Seberht or Sebert had founded in A.D. 610. But it was supposed that King Lucius had founded an Abbey of St. Peter as well as the church on Cornhill in the second century, and it was believed also a Christian church was erected on Thorney Isle at a still earlier time. It is, however, impossible to have any certainty about the succession of the churches which existed on the site of the present Abbey. The names of King Edgar and St. Dunstan are associated with an Abbey at Westminster in the tenth century. But it was not until the middle of the eleventh century, when Edward the Confessor was able to reach the throne, that the Abbey comes within the province of definite history.

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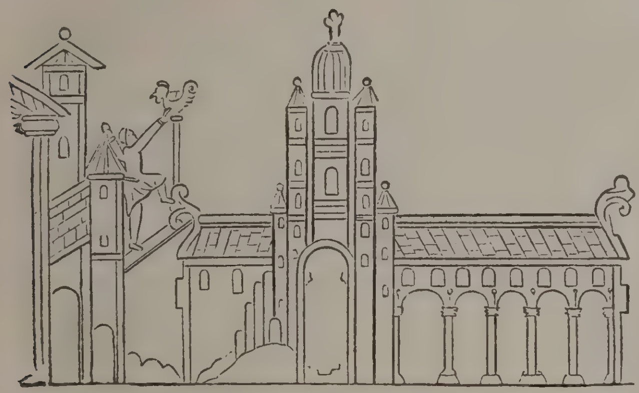
* See Illustrations.

The character of Edward has given rise to much comment. Apparently he was a man who was as much out of place in England as Hamlet was in Denmark. Lingard, who could not fail to be kindly disposed towards him, describes Edward as a good rather than a great king, one who was wanting in that energy of mind and ferocity of disposition which were then demanded to repress the violence of the lawless nobles. He was most religious in disposition, and vowed to visit the tombs of the Apostles at Rome, but the Witenagemot, which was the predecessor of Parliament, objected. Edward was absolved from his vow by Pope Leo IX. on condition that the money he had collected for his journey should be given to the poor, and that out of his income he should found or re-found an abbey in honour of St. Peter. The Abbey was part of a Benedictine monastery, and as such there was probably a large area occupied with the buildings for the monks and for the wayfarers who sought shelter within the walls. But the whole of the buildings were likely to have been erected on land which was a part of the royal domain, and Edward was believed to be a very assiduous attendant at the services in the Abbey. It was not necessary for him to make a long journey. The position of Westminster Hall remains as evidence of the proximity of the Palace to the Abbey. The designer of the Bayeux tapestry believed the two buildings adjoined, for in it we are shown a man who, while standing on a wall of the Palace, was able to touch the weathercock on the end of the roof of the church. The Abbey has so long appeared to be an institution of the country, and is so inseparably associated with many phases of national life, it is difficult to realise how strong was the personal element in its greatness. There is nothing which proves that the Westminster Abbey which Edward attended was of much importance. But he was pleased with its position, and he reverenced the saint to whom it was dedicated. A contemporary biographer in the eleventh century has recorded the circumstances as follows :—



> The devout king destined to God that place, both for that it was near unto the famous and wealthy city of London, and also had a pleasant situation amongst fruitful fields lying round about it, with the principal river running hard by, bringing in from all parts of the world great variety of wares and merchandise of all sorts to the city adjoining ; but chiefly for the love of the chief Apostle, whom he reverenced with a special and singular affection.

Although Edward might be supposed to be bound to the old church of the Abbey by many devotional exercises and by the numerous manifestations which hallowed it, he could not escape the desire for novelty with which the courts of kings were pervaded. He destroyed the building in which he had worshipped and boasted to have built a new one from the foundations. Nor was Edward satisfied with expending money freely on the buildings. Through his influence special privileges were bestowed on Westminster in order to distinguish it from the ordinary abbeys of the Benedictines. It was only natural the king should desire to see the consummation of his project, and to witness the dedication of buildings which for years occupied his thoughts. They were therefore carried on with expedition. But the king was not destined to enjoy the happiness he sought. He had been absent from London, but returned at Christmas to Westminster for the dedication. On the day appointed Edward was too ill to be present and his place was taken by Harold, who was to be his successor on the English throne.

We can only now conjecture what kind of building was raised at the expense of the Confessor. Below the ground some of the masonry may have survived, but it would be a difficult operation to seek after it. Sir Gilbert Scott found some portions of the bases of the piers which are supposed to have formed part of the choir. By using them as data it is supposed the axis of the king's church corresponded with that of the existing building, and that the positions of the main division corresponded with those we now see. There happens to be a prose and a poetic description of Edward's building, one in French the other in Latin, which have been reprinted in Dr. Luard's Lives of the Confessor published by the Master of the Rolls. The following abstract of a translation of the Latin manuscript was prepared by Sir Christopher Wren :—

> The principal area or nave of the church being raised high, and vaulted with square and uniform ribs, is turned circular to the east ; this on each side is strongly fortified with a double vaulting of the iles in two stories, with their pillars and arches. The cross building, contrived to contain the quire in the middle, and the better to support the lofty tower, rose with a plainer and lower vaulting; which tower, then spreading with artificial winding stairs, was continued with plain walls to its timber roof, which was well covered with lead.

The French verses describe the foundations as large blocks of grey stone ; the front towards the east was round, of stones that were strong and hard ; a tower rose in the centre, and there were two on the west side containing bells. The pillars were rich within and without with bosses and capitals. The stones were all finely cut. All parts showed masterly skill and loyal craftsmanship. On its completion the church was covered with lead. There was a cloister with a chapter-house, which on the eastern side was vaulted and round ; in it the ordained ministers could hold their secret councils. The dortour was rebuilt and the surrounding offices. Even in our age it is not easy to write a description of a building in rhyme, and the Frenchman who penned the panegyric on Edward in 1066 was to be excused if he did not display technical precision. It would be no easy task to make drawings to illustrate either the prose or the verse, and the form of the Confessor's church may well be left to imagination.

It is not to be supposed that the building operations were entirely completed at the time of Edward's death. Probably not more of the building than was allotted to the monks and to the attendants on the king was ready to be dedicated. According to Mr. Parker, in addition to the choir and transepts the erection of the dormitory was in all probability carried on at the same time, as the monks who had to perform the service in the church must have required a place to sleep in. Of this dormitory the walls and vaulted substructure remain, and he says:—"It is remarkable that the stone used in the Confessor's work at Westminster was so good that the marks of the hammer are still distinctly visible, notwithstanding the surface decay of many buildings produced by the London smoke. The stone used in the fourteenth century, when the wall of the refectory was altered and decorated afresh, is quite of a different character, and has perished so much it crumbles with a touch."

About a century after the death of the Confessor the bull of his canonisation was issued. The addition of a new saint to the calendar was an event of importance in those days. The Abbey which contained his shrine would necessarily have to be placed in a condition which would be worthy of so revered a treasure. Henry III., who then reigned, realised the duties that were incumbent on him. He rebuilt the Abbey, and contemporary historians declared that the new church of Westminster surpassed in magnificence all the other churches throughout Christendom.

(*To be continued.*)

THE VANDYKE EXHIBITION.

A VISITOR to the Vandyke Exhibition must feel the contrast between the black coats and chimney-pot hats of the people around with the fine costumes which appear on the walls. The time of Charles I. might not be an age of beautiful forms in costume, but it was undoubtedly one when colour was encouraged. Perhaps the excess of colour was contrary to the English nature, and was one of the causes which led to a reaction in Puritanism. That is not the only incongruity. The middle-class visitor must feel that men like himself were not much appreciated by the painter he is admiring. Elsewhere Vandyke made sketches of painters, engravers and scholars, but in England he cared only to have representatives of the nobility before him. Much as Gainsborough idolised Vandyke, he must have known that the Belgian artist would not have immortalised a parish clerk on canvas, nor have gone to Newport Market in quest of a model who was to exemplify a theory of colour to future ages.

But it must be allowed that if Vandyke's subjects were aristocrats, they proved themselves to be true men and women amidst overwhelming disasters. The number of those represented in the Academy who died on the scaffold, or on the battlefield, or who suffered exile, is amazing. The king who seemed to be destined to encourage the arts was not allowed to see his half-century on earth. Viscount Stafford, whose splendid portrait is lent by the Marquis of Bute, was executed through the perjury of Titus Oates, although even the mob cried out that they believed in his innocence. His attainder was subsequently reversed, but what did that avail? The Marquis of Huntley, who appears as a magnificent dandy, was beheaded. The dwarf Sir Geoffrey Hudson, who may have served as the model for some of Vandyke's amorini, was long imprisoned on suspicion of being a traitor. Archbishop Laud suffered in 1645. The Earl of Strafford would have been executed half a dozen times if it were practicable. Viscount Falkland was killed at Newbury. Colonel Cavendish, who was painted as a pendant to Falkland, was killed at Edgehill. Francis Villiers was not twenty when he was slain in a contest in a lane between Surbiton and Kingston. Sir Edmund Verney fell at Edgehill, as became the standard-bearer of the king. Lord John Stuart was killed at the battle of Alresford, and Lord Bernard Stuart at Rowton Heath. The Countess of Derby had to sustain two sieges; her husband was executed at Bolton. Lord Grandison died of a wound during the siege of Bristol. The Marquis of Hamilton was beheaded. The Marquis of Montrose was executed in a barbarous manner at Edinburgh. Lord Capel was beheaded. The Earl of Northumberland was imprisoned for fifteen years. We suppose there never was an exhibition containing so many portraits of men whose fate it was to kneel before the headsman. It adds to the terror of the tragedies when we see by the lifelike representations that among the nobles all were without the least apprehension of their impending doom. It is quite evident that during the seven or eight years in which the painter resided in London there was confidence that England was to remain a happy land where cavaliers were to flourish.

There are so many portraits of the class of men and women we have indicated that the few examples which appear of another class are manifestly out of place. Snyders and his wife were friends of the painter, and their portraits show a surprising breadth of handling; but they appear as intruders amidst the nobles. Even more so is the portrait of Langlois, the bookseller, playing on the bagpipes, one of the best known of Vandyke's works. The amateur musician in such distinguished company looks like a boor. Sir Kenelm Digby was a remarkable man, but at the time he stood for his portrait he had become obese, and he seems an unfitting companion to the fine gentlemen near him, who were able to preserve slimness by exercise. Charles de Mallery, the engraver, has so much of the plebeian about him he hardly appears to be sober, although in another place he might pass as a respectable if stolid burgher. These facts should be remembered in order to realise the limitations of Vandyke's art. Unlike the majority of great artists, he was only the limner of a caste.

It was becoming that the portraits of the king and queen should appear to dominate such a collection. The royal pair are seen on several canvases, sometimes together, sometimes separately. There must have been a desire among the courtiers to possess portraits of Charles and his wife by the court painter, and Vandyke, we suppose, found his privilege to produce them a profitable source of income. Generally, he represents the king facing the spectator, but in the Earl of Denbigh's portrait Charles is shown in three-quarter profile. The work was intended as a companion to one of the queen, who was also seen in profile. This is remarkable, because in the other portraits Henrietta Maria always appears "to be making eyes" at whoever looks at the portrait. Such a stereotyped arrangement when seen several times ceases to be pleasing, but we suppose the queen willed to be depicted in that way and Vandyke was glad to obey. Her Majesty may have supposed she was bewitching the English by the magic of her French-Italian eyes. The most interesting of the royal portraits is that lent by the Duke of Grafton. The king is taking a green wreath which the queen offers him. He is clad in pale crimson, and that colour is carried on through the ribbons which form a part of the queen's white dress and the ribbon which binds her hair; she also wears a ruby bracelet. The scheme of colour is very simple, but it has a refined appearance which is becoming to the subject. Evidently the queen was pleased with the arrangement, for Vandyke has adopted it in several of her portraits.

Another force of that period was the Marquis of Strafford, the evil genius of the king. Why so many portraits of him should exist is a mystery, but there could not be closer resemblance between them if they had been produced by a machine. One reason for the mechanical fidelity is the repetition of the expression of self-confident stubbornness. The political Murdstone who plunged England in civil war resembled his modern type, of whom we are told "that nobody in his world was to be so firm as Mr. Murdstone; nobody else in his world was to be firm at all, for everybody was to be bent to his firmness." No matter in what position Strafford is represented, his face says plainly, "I am to be obeyed." The consciousness of supreme will becomes ridiculous in the painting, the *Earl of Strafford and his Secretary, Sir Philip Mainwaring*. The scribe is holding a pen, and his eyes seem to be bursting from their sockets in his eagerness to record the decree which the statesman, who represents fate to him, is about to utter. With satellites like Mainwaring there must be tyrants like Strafford. Another power in those days who brought misfortunes on England was Archbishop Laud, who was also an auxiliary of Strafford. But in the circular portrait of him there is nothing suggestive of a conspirator against freedom. He looks like a well-meaning head of a college, who could unbend at table and might occasionally condescend to make a joke. But, like other men of that age, he found himself in a false position, where he was liable to misinterpretation.

The majority of the English portraits are of beings who were not marked as conspirators by nature. The Earl of Arundel, of whom there is more than one portrait, was a great collector and a patron of Rubens; there is nothing to suggest the character of his studies, an omission which is the more remarkable as he stood alone in admiration for antiquity. In the Earl of Northumberland we have an early example of those pictures in which a battle on the sea appears to be directed in luxury from the shore. The *Portrait of an Artist*, belonging to the Duke of Sutherland, is rather one of an amateur in astrology. The Duke of Richmond and Lennox appears in the first room as Paris, and holds an apple; but the tightly-clenched mouth, which was one of his characteristics, is out of keeping with the easily tempted Trojan swain. The Earl of Pembroke appears as an effeminate youth, almost resembling a girl. There is something of Hamlet in Lucius Cary, second Viscount Falkland, one of the most admirable characters of that age, and who, when the war broke out, would, we are told, "with a shrill and sad accent ingeminate the word peace, peace." He was made to be a scholar, but he could not resist the necessity to engage with strife. The painting of *George and Francis Villiers* on one canvas comes from Windsor Castle, and affords a contrast between yellow and crimson. The Earl of Portland, Lord High Treasurer to Charles I., is a fine type of the English noble; he had served as ambassador in Brussels and Germany, and afterwards held the office of Chancellor of the

Exchequer, and, if the portrait is evidence, he contrived to preserve his good-humour. He was closely connected with Rubens in diplomatic business as well as in picture-dealing. The *Five Children of Charles I.* from Windsor Castle form a picture which is well known from the numerous engravings of it. In the centre Prince Charles rests his hand on a large mastiff almost as tall as himself; on each side are the other children. In this as in another painting the young Duke of York, although about four years old, appears in girl's clothes. The *Lord Wharton*, being the property of the Emperor of Russia, is little known, and in consequence of its novelty is receiving extraordinary admiration. It is undoubtedly a fine work. His lordship is dressed as a shepherd, a little of the Arcadian type, and holds a staff. His dress is green and amber. The portraits of Thomas Killigrew and Thomas Carew, who are together, are most skilfully arranged. It was necessary to suggest that Carew was a poet and that his friend admired his writing, at least on occasions, and this is successfully accomplished. A study for a White Horse with an immense mane was evidently intended for an equestrian portrait of Charles I., of which one slight example is to be found in the fourth room. There are several portraits of ladies, and all the full-length figures appear to suggest forms that were above the average height. Lady Wentworth, Strafford's wife, is shown as pushing aside a portière. The Duchess of Richmond is attended by Mrs. Gibson, a dwarf, who serves as a foil to the height of her mistress. The Countess of Leicester and the Countess of Carlisle, two sisters, are represented as very merry. This is probably the picture mentioned by John Evelyn in his "Diary." Vandyke's wife, who is not out of place among so many noble ladies, for she had royal blood in her veins, appears as Herminia putting on Clorinda's armour. There are two portraits of Vandyke, in one of which he is pointing to some sunflowers; the other, which belongs to the Duke of Grafton, does not correspond with any of the known portraits of the artist.

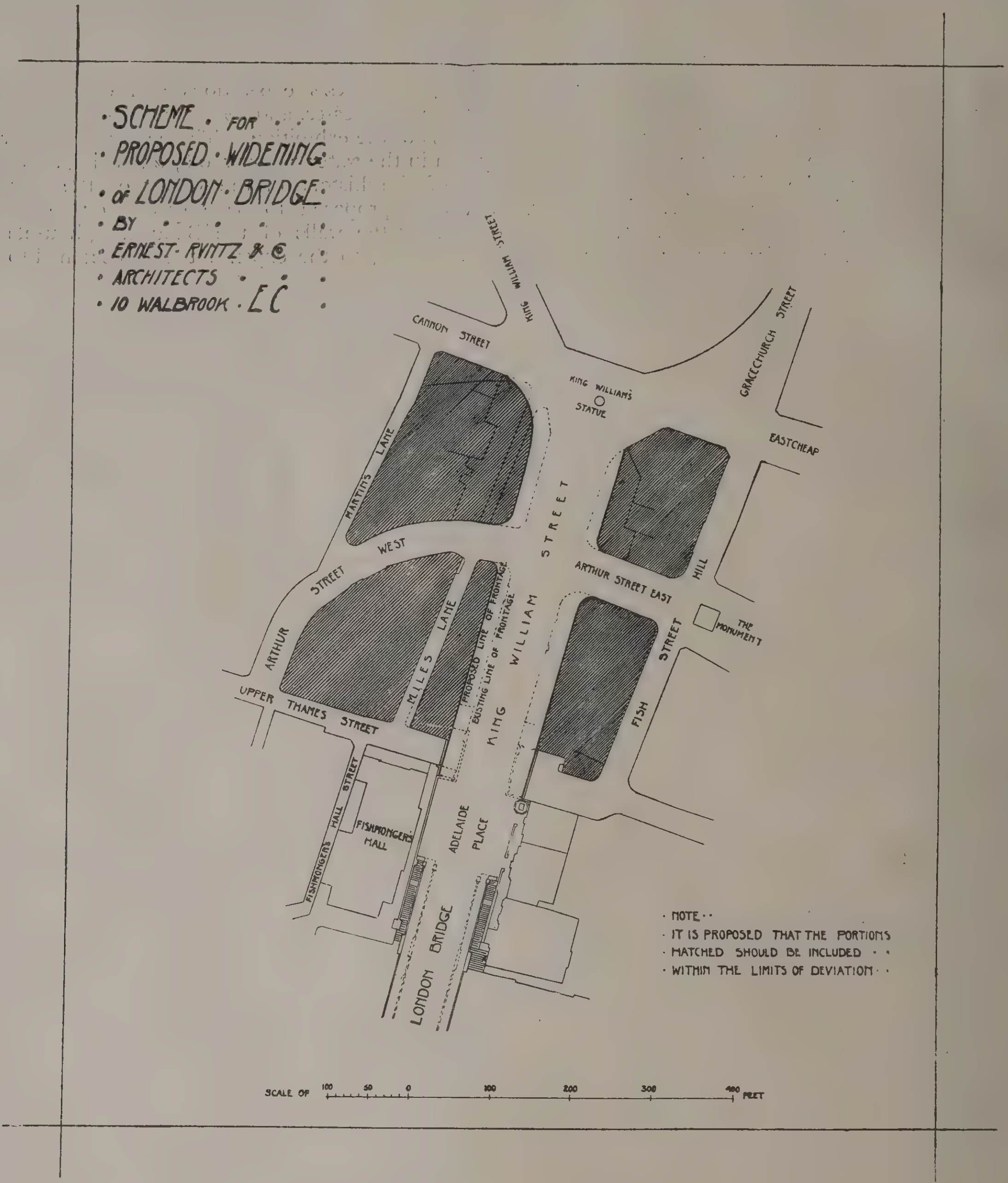
Several foreigners sat to Vandyke. The Cardinal Ferdinand of Austria, who was the governor of the Low Countries, wears nothing to suggest he was an ecclesiastic; his dress is of red and gold, with a broad sash across it, and a very deep lace collar. The cardinal's aunt, the Infanta Isabella Clara Eugenia, wears the habit of the Poor Clares, and appears to be a resolute old lady who was able to govern the Netherlands. One of the finest portraits is that of Andrea Spinola, who is seated at a table, and wears the robe of a doge of Genoa. Although the head appears small in contrast with such a mass of red, so much power is shown in the face that it, as it should do, rivets the gaze of the spectator.

At the other end of the room there appears to be a second portrait of him, and he is shown as wearing armour; both manifest the painter's competence to suggest Italian subtlety. The fine portrait of Count Nassau Dillenbourg shows the old soldier in armour, and the steel is contrasted with red lining, straps and laces—a favourite arrangement with the artist; he grips his bâton in his right hand and appears to be fighting his battles over again; the Count might be a second Jack Falstaff relating his single-handed encounter with the host of robbers at Gadshill. The Italian ladies wore robes which were of heavier materials than those employed in England, and in the full-length portraits of the Marchesa Brignolé-Sales and the Princess Balbi, which are both in the third room, we have a proof of the painstaking endeavours of Vandyke to do justice to the work of the weaver, embroiderer and tailor. There is a full-length portrait of the Abbé Scaglia, a diplomatist who was connected with Rubens. At one time, while he was ambassador from Savoy, he was in the service of the English king, and declared he could not serve the Prince of Piedmont with more affection and fidelity. But when he is seen in one picture kneeling before a mature Madonna, who is supposed to be the Duchess d'Aremberg, one cannot esteem his character. A less subtle priest is suggested by the full-length portrait of Vitelleschi, the chief of the Jesuits.

Most of our readers, we suppose, are acquainted with the collection of etchings known as Vandyke's "Iconography," which were produced by the painter and some of his friends. Out of the hundred and twenty-eight plates the Duke of Buccleuch possesses forty of the originals painted in monochrome or grisaille, uniform in size and in treatment. With the exception of Charles I. they represent foreigners; they are of the greatest interest as suggesting Vandyke's expeditious and decisive method of sketching likenesses, and form one of the most interesting portions of the exhibition. There are many other sketches by him in the water-colour room, one being a grisaille for a part of the history of the Order of the Garter which Vandyke proposed to have carried out in tapestry for decorating the walls of the Banqueting-house in Whitehall. Owing to the expense the project had to be abandoned.

The exhibition is not confined to portraits. There are, for instance, two Crucifixions; one belonging to the Rev. L. G. Vere is an excellent example of an altar-piece without distracting elements. The drapery is painted with such simplicity and such an absence of folds that the attention becomes concentrated on the figure of Christ, which is really pathetic. The second picture, which belongs to Prior Park College, is not quite so large, but has been judiciously cleaned, and is a telling termination for the only vista of any importance in the Academy. It is also a reverential rendering of the subject. There is a study of the large picture, *St. Martin dividing his Cloak* at Windsor. In a small sketch for the *Baptism of Christ*, St. John is represented as kneeling on the bank. There are two versions of the *Betrayal of Christ.* This was a favourite subject with the artist, and a painting of it is one of the treasures of the Madrid Gallery. When Vandyke was departing for Italy, he made a present of one to Rubens. In the larger version which is in the Academy the centre of the painting is occupied by a muffled figure of Judas, and, as the face is hardly visible, there seems only a bale of coarse brown stuff, which obscures the principal figure. In the smaller picture a little more of the face of Judas is visible, but the change does not much improve the effect of the composition. The *Marriage of St. Catherine*, which was lent by the late Duke of Westminster, is not surpassed for the beauty of the faces by any work in the exhibition. There is less simplicity in a picture of the same subject from Buckingham Palace, nad the saint is of a more complex character. Lord Methuen's *Charity* is a group of a handsome woman looking up and surrounded by some children.

Among secular compositions is an *Andromede*, the girl standing upright and appearing unconscious of the approaching monster which is too absurd to excite terror. The *Rinaldo and Armida* in the third room is the most satisfactory of the subject pictures, and there is a second version of it with the figures reversed. In its original condition it must have been a very brilliant picture, for it still retains a fine glow of colour. The young hero is asleep near water, and the sorceress is endeavouring to enchain him with wreaths of roses. From the water a syren rises and sings from a sheet of music. Near her is a Cupid, who is watching the results with a roguish expression on his face. Some admirers will consider that it is the climax of Vandyke's art in the exhibition. The majority of visitors will, however, find most satisfaction in the English portraits. They are sufficiently numerous to comprise several of the most prominent actors who were to take parts in the approaching tragedy of the war between the King and Parliament. It is true there is only one side, for although some of the nobles of that time were, like Lord Falkland, disposed to believe in the uprightness and integrity of the Parliamentary leaders, they hesitated about incurring the risk of joining them. The Puritan leaders were also unwilling to patronise the arts, and especially as practised by the "Principal Painter in Ordinary to their Majesties." There were consequently few sober-garbed visitors to the studio at Blackfriars. Enough works have been lent to enable seven of the rooms of the Academy to be occupied. When we consider they all form a portion of the work of an artist who died when he was forty-two, we must wonder at his productivity. The pictures are separated by intervals of wall space which are advantageous, and many an artist will regret that a similar arrangement is not feasible in the Summer Exhibition.



NOTES AND COMMENTS.

THE volume containing the reports of the winter meetings and summer excursions of the archæologists of the Upper Norwood Athenæum has appeared. The places visited were Tottenham and Bruce Castle; Slyfield and Stoke d'Abernon; Sutton Place; Sevenoaks, Knole and its Park; Wheathampstead; Rochester and Gadshill, Kent; The Deepdene, Farnham and Waverly, Oxford, Eltham Palace and Well Hall. The excursions have not the excitement which attends on county societies, but they are more likely to create and foster a love of archæology. People who would be afraid to take part in the county visits can express their doubts and give interpretations without incurring a charge of presumption. The pleasant journeys of the members of the Athenæum have continued so long we might be disposed to say it has the germs of a much larger institution in it. But if the members became more ambitious they might forfeit much utility and fail to give so much instruction and pleasure.

GLASGOW was right in suggesting by the introduction of a salmon in its armorial bearings the importance of the Clyde to the city. It is needful, therefore, that the river should be kept in as excellent a condition as is possible. With manufactories pouring refuse into the water and other means to blacken and enfoul the river, it is impossible to have so clean a waterway as desired. But for some years past there has been no doubt about the improvement in its condition. That was due to the Clyde Trust and to the engineer, JAMES DEAS. It is with regret his sudden death on Friday last will be heard by all those who have been brought into relations with him. He was in his seventy-third year. His education was thoroughly practical and varied. The son of a prominent engineer, after gaining experience of railway works he was engaged as locomotive engineer on various Scottish railways. In 1869 he was appointed engineer to the Clyde Trust, and he had therefore completed thirty years of work. The progress of the Clyde, as exemplified in the construction of works under his charge, is marvellous, and the revenue in consequence has increased threefold. His loss will be much regretted in Glasgow, and with reason.

ILLUSTRATIONS.

WESTMINSTER ABBEY: CHOIR LOOKING EAST, SHOWING PART OF NORTH TRANSEPT—ENTRANCE TO SOUTH AMBULATORY—THE TRIFORIUM, NORTH TRANSEPT.

LONDON BRIDGE, AS IT MIGHT BE.

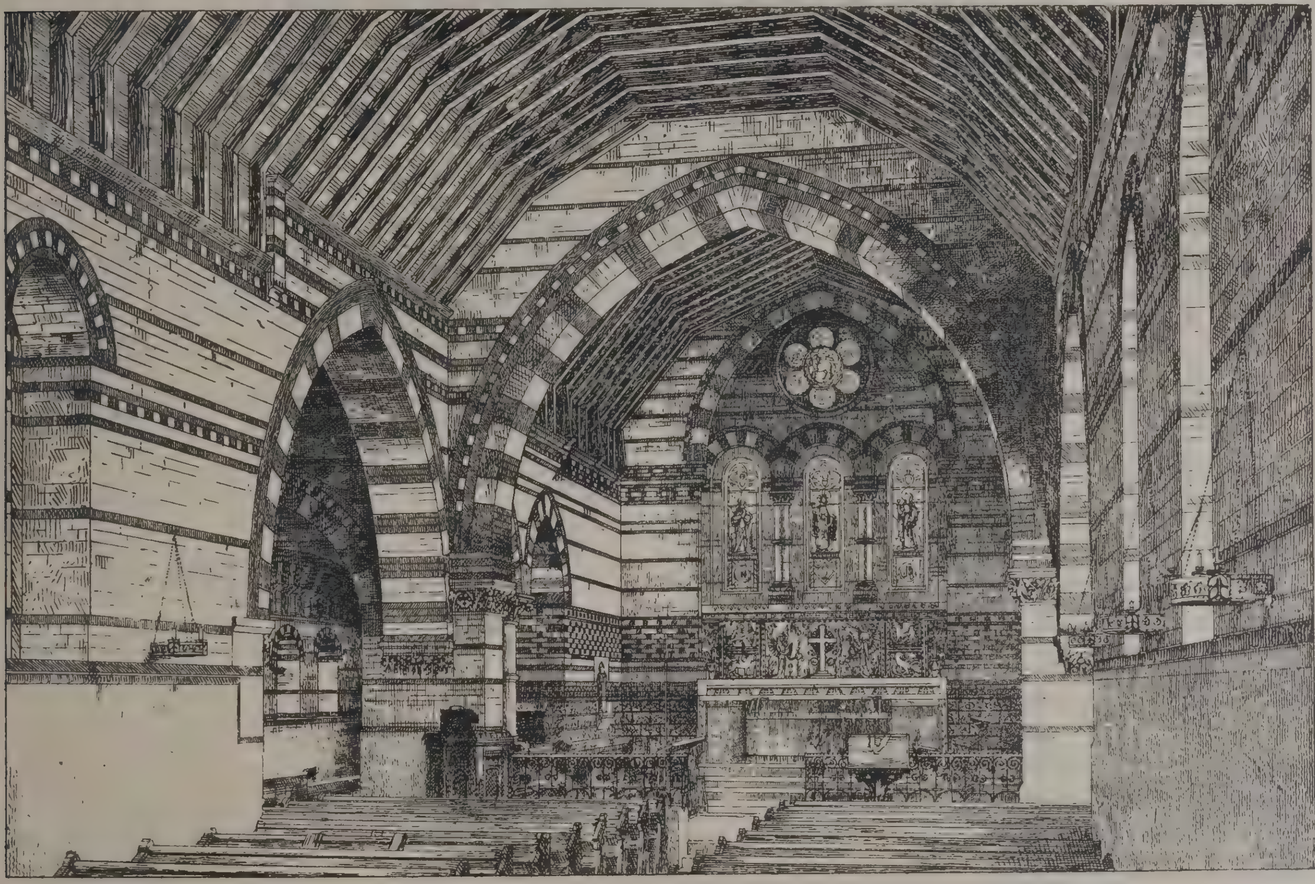
DINING SALOON, R.M.S. "OCEANIC," WHITE STAR LINE.

MINLEY MANOR, FLEET, HANTS.

BRYANSTON, DORSET.

SIR A. W. BLOMFIELD ON CHURCH BUILDING.

THE late Sir A. W. Blomfield was not long in practice as an architect when he announced his theory as to how English churches should be planned. He maintained that a building should exactly express its purpose, and that the bare walls or actual skeleton of a church should bear the distinct impress of every part of the ritual existing at the time of its erection, and should give expression to all ceremonies and forms of worship about to be celebrated in it. In the first place, he insisted on importance being given to the altar or holy table. To attain that end he considered it was better to spend a little extra cost around it, although it might be at the sacrifice of some decoration in other parts. For that reason he recommended the employment of a stone reredos. The principle, he said, of always expressing the position of an altar by a solid reredos depends simply on the question, Is the most solemn part of our ritual celebrated there or not? The position of the font should, at any rate, be well defined and expressed by some modification or exceptional feature in the architecture, so that there may be a perpetual and ineffaceable protest against any future removal by a reforming churchwarden or a new incumbent. The reading-desk, he said, should be an architectural feature, and that a hint for the treatment might be taken from the ambos in Saint Clement's, Rome. As to the pulpit, he said, any sort of one not entering into the spirit of the church does not satisfy a principle which we all acknowledge in the abstract. According to him, some of the best examples of Mediæval pulpits are to be found in the refectories of monasteries, and used for reading to the monks during their meals. He was an advocate of sounding-boards, and concluded it would be much better for the architect to incorporate one with his design and put it up at once with the pulpit than run the risk of his work being disfigured hereafter by its addition. The organ also should impart a distinctive character to that part of the building which is destined to receive it. In village churches where only a harmonium can be employed, a recess in the thickness of the wall could be formed with very good effect at a very small cost and with unmistakable fitness of purpose.



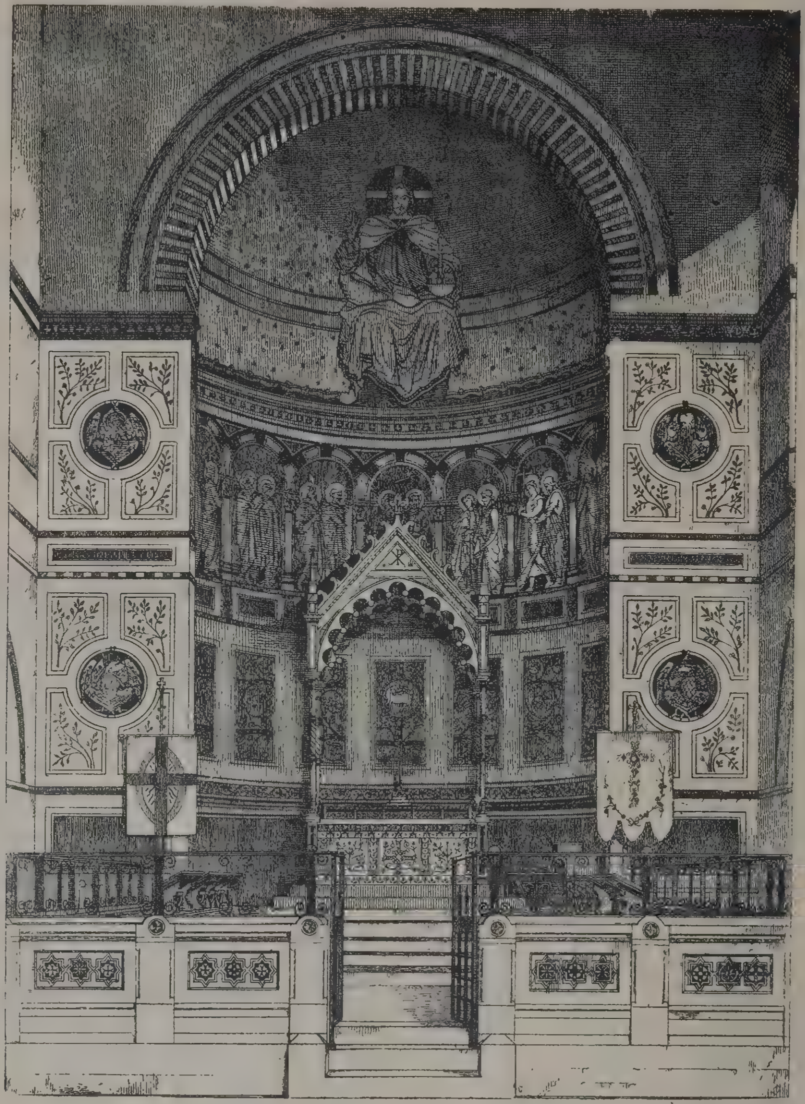
All Saints Church, Upper Caldecote, Bedford.

As neither English ritual nor English congregations can be considered the same as those for which the ancient churches were built, it is not to be expected that they can be copied exactly with advantage. He believed that had it been possible for a new and true architecture to have sprung up with the Reformation from the ashes of the old, we should have had churches as beautiful but as different from the Mediæval buildings as they in their turn were from the early Christian basilicas. But to turn a church into a great auditorium is not only subversive of all proper ritual expression in arrangement, but renders it almost impossible to conduct the service in a decent and reverent manner. Where galleries are a necessity they should be located as part of the construction, and their presence should be expressed internally. A gallery at the west end of a church broke up and dissipated the sounds from the east end and prevented echo, besides clothing the conspicuous bareness of the wall. In planning the nave the seats should be fixed, and all the congregation should have an uninterrupted view and hearing of the officiating minister. Arrangements should be made by which all the congregation should feel neither too cold nor too hot, and there should be no draughts in the church. As far as possible the obstruction of view caused by thick columns should be avoided.

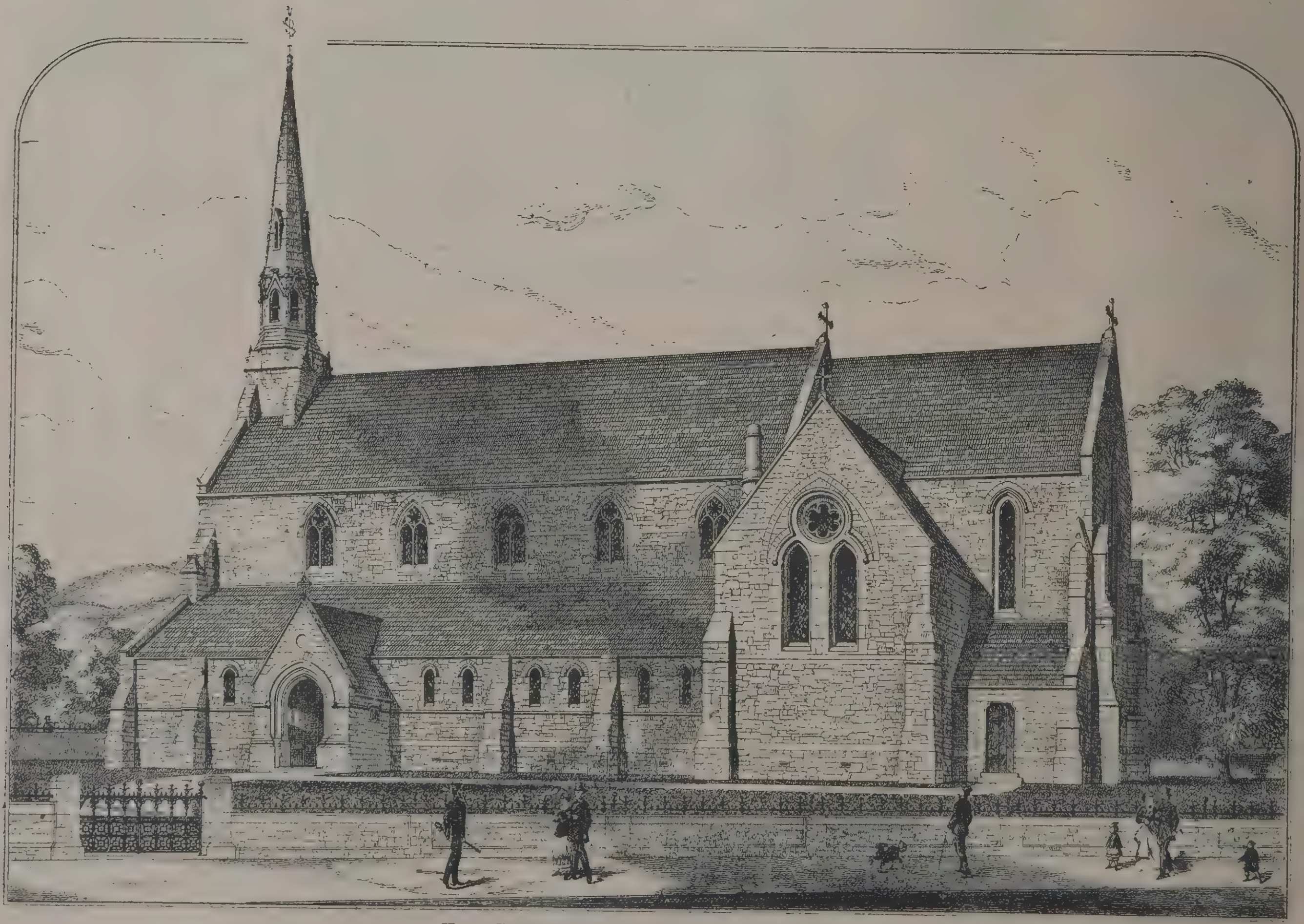
Arthur Blomfield endeavoured, as far as he could, to carry out the principles he had adopted. In order to suggest how far he was successful, we have reproduced a few of his churches from early volumes of *The Architect*. They will show how he tried to combine economy with artistic appearance and with fitness for ritual. The first example is All Saints Church, Upper Caldecote, Bedford.

The chief interest which attaches to this church arises from its success as a work of art, and the very moderate amount of its cost. For a sum extremely modest when reckoned at so much per sitting, or when looked at as the cost of a complete church, the architect succeeded in producing a building which has good claims to be looked upon with admiration. The proportions of the church are not lofty, and the materials are chiefly brick, stone being very sparingly introduced. Coloured decoration was to some extent employed to heighten the effect of the chancel, and, though not spread over a large surface, yet combines well with the simple patterns produced by the use of bricks with different colours. The design is a good example of that class of church which is often called for where means are narrow, and at the same time a certain amount of beauty and grace is indispensable.

The second church is St. Barnabas Church, Oxford, and is interesting for several reasons. The material first thought of by the architect for the entire construction of this church was concrete, but it was found that the main walls could be built much more cheaply of ordinary rubble work in blue lias mortar cemented without to protect it from the weather, and plastered within to receive the decoration. Portland cement



ST. BARNABAS CHURCH, OXFORD.



THE CHURCH OF ST. MARY, STROOD, KENT.

concrete, however, is employed for steps and window-sills, and in all positions where stone would ordinarily be found, except for columns and capitals, where Bath stone is used; no moulding or other feature in imitation of wrought stonework has been admitted into the concrete work. The interior makes a favourable impression. The plan is that of an ancient basilica—a wide and long nave, with aisles; a semicircular apse at the east for the sacrarium, the choir being constructed in the eastern bay of the nave; a smaller apse at the west end for a baptistery. The style is Romanesque. The nave is separated from its aisles by arcades of plain unmoulded, semicircular arches, carried on short columns with carved caps, the wall space being relieved with hood mouldings and horizontal lines of brick. The nave is covered in by a tie-beam roof of imposing span, effectively decorated with colour. A colossal figure of Our Lord in the attitude of benediction occupies the semi-dome of the apse, which is studded with stars. Beneath His feet is an arcade filled with the figures of the Apostles arranged in pairs; still lower are panels of a foliage pattern, and, lastly, a plain dado. The face of the east wall on each side of the arch is also decorated in four panels of ornamental work with the symbols of the four Evangelists. The arch itself is turned in alternate voussoirs of brick and cement. The string-courses of brickwork are arranged harmoniously with the colouring, and the designing of the decoration is admirable. A slender baldachin or canopy gives great dignity to the altar, and a large metal cross suspended from the roof over the west entrance to the choir has a very picturesque and striking effect. The cost of the church (which holds 1,000 persons), including boundary-walls, gas, warming, all fittings, decorations, &c., and architect's commission, amounted to 5,500*l*.

The third example, the church of St. Mary, Strood, Kent, was built and partially endowed at the sole expense of a lady, Mrs. Griffith. The cost was about 6,000*l*. The material is Kentish rag in range work, with hammer-dressed quoins of the same material, and Bath stone for windows, &c. The interior is faced with Hassock and red and stock bricks. The interior is of much more ornamental character than the exterior. The east window (an Early English triplet) is filled with stained-glass. A large window in the south transept was presented by the contractors, Messrs. Foord, of Rochester, as a memorial to their father. The reredos is of stone with marble columns, having in the centre panel a group carved in alabaster representing Our Saviour at the moment of His recognition in the breaking of bread to the two disciples at Emmaus. A small panel on each side is filled with mosaic representing a pot of lilies. The roofs and sittings throughout are of pitch pine; the chancel stalls are of wainscot. A brass eagle by Messrs. Hart, Peard & Co. was presented to the church

FLEMISH ART GUILDS.

In the catalogue of the Winter Exhibition at the New Gallery there is an excellent essay on "Early Art in the Netherlands," by Mr. W. H. J. Weale, whose authority on the subject is indisputable. On the matter of the art guilds he writes:—Up to the end of the twelfth century art in the Low Countries was almost entirely* under the control of the monastic orders. The abbeys, and even many of the priories, had around them a large number of dependents who worked for and under the direction of the monks, who always had two schools; one in which they trained their own novices in the arts and sciences, the other in which they instructed their dependents in every craft. There is documentary evidence to show that these dependents living under the protection of the abbot were to be counted by hundreds, and sometimes even by thousands. They formed communities, working not only for the monks, but also, under strict regulations, for outsiders. Towards the end of the twelfth century a great change took place—a change brought about by the development of the towns. As soon as a town grew to any size the inhabitants engaged in any particular craft, or in two or more connected crafts, joined themselves into associations to protect their common interests. These associations once formed gradually developed, and when the commonalty obtained from the sovereign a charter of incorporation, they in their turn got one from the municipality. The first thing a newly-incorporated municipality did was to build a belfry and then a town hall; other public buildings soon had to be added, and as the inhabitants grew in wealth they replaced their wooden houses by more durable constructions in brick or stone. Art craftsmen soon found that to be able to work in peace it was no longer necessary to remain under the shadow of the abbeys, and numbers of them removed into the towns. There they quickly discovered that their position as independent craftsmen was anything but stable, and that to succeed they must unite with one or other of the existing industrial corporations. So in many towns the masons and sculptors joined that of the carpenters; the painters and glass-painters that of the saddlers and glaziers. All these corporations, primarily formed to protect and further the temporal interests of their members, had also a religious side, all the members being bound to join and subscribe to the guild in honour of the saint chosen as patron of the corporation. During the thirteenth century some few monasteries, such as the Cistercian abbey of the Dunes near Furnes, and the Benedictine abbey of St. Hubert, in the Ardennes, still kept a body of art craftsmen about them, but these gradually diminished in number, and from the close of the century the arts only flourished and progressed in the towns in which those who practised them formed part of a chartered corporation. No man practising a craft already in the possession of a chartered corporation could work for pay in a town unless he were a burgher by birth or by purchase, and a member of that corporation. As such he obtained a recognised position, but was also subject to strictly enforced regulations. Painters neither looked on themselves nor were considered by the public as superior to other craftsmen. It was not until art began to decay that they gave themselves superior airs. During the great ages they were paid for their work like other craftsmen; it had to be good, honest work executed with good materials—the officers of the corporation saw to that—and it was each man's aim to make his work as beautiful as he could. The old warning, "Caveat emptor," as regards the works executed by members of the chartered art corporations, became obsolete, and attention to it only again became necessary when sculptors and painters emancipated themselves from all control save that of the law courts, quite incompetent to deal with such matters. The corporation took care to secure the proper training of its members. A lad had to be bound apprentice for a term of years to a master painter, who became responsible for his technical education and for his attention to his religious duties. The boy lived with his master, served him and had to obey him; the master in return had to give him thorough instruction in all matters relating to his craft; how to prepare his panel or canvas, how to prepare and lay on the gesso ground, how to mix his colours and make his varnishes. His apprenticeship terminated, the youth became a journeyman, and could work for pay under any master he chose, either in his own town or elsewhere; after a time he would present himself before the appointed officers of the corporation for admission to the rank of master painter. He was required to give satisfactory evidence of his technical knowledge and to execute a picture. He had next to take an oath to obey the laws of the corporation, and to promise that his work should be good and honest work in the sight of God. Then upon payment of certain fees, which varied in amount according to whether he were the son of a master painter or of an outsider, he became a full member of the corporation with a right to vote at the annual election of its officers, but though a free master, he remained all his life under the supervision of the inspectors of the corporation, who could at any time enter his shop and seize any materials that were bad, such as panels with knots in them, and gold, silver, azure or sinople of inferior quality; these were confiscated and destroyed, and their owner fined. Again, if any dispute arose between a painter and his employer the officers of the corporation were called in to settle it, to appraise the value of the work, and in case of a previous contract to state whether the agreement had been honestly fulfilled, and whether the work delivered was executed according to contract. The painter of any scamped or dishonest work would be brought before the magistrates and severely punished. If, on the other hand, the work was found to be better than that contracted for, the complaining purchaser had to pay the difference between the price agreed upon and the real value, as also all the costs of the expert witnesses, &c. The art corporations grew in power during the fourteenth century, but did not attain their full importance until towards the middle of the fifteenth. At that time delegates from all the chartered corporations of painters throughout the Low Countries met every third year in one or other town, where they spent several days in discussing matters of common interest and in communicating to one another the discovery of improvements in technical methods. These periodical reunions fully explain the remarkable uniformity in the processes employed throughout the Low Countries, and prove that until the middle of the sixteenth century there was really only one school, the old and proper name of which is the Early Netherlandish, and not the Early Flemish school, for, so far as our present knowledge goes, Flanders during the whole of the fifteenth century gave birth to very few painters of any great merit, and the most distinguished of these were sons of Dutchmen.

The Trial of the action brought by M. Bertholdi, the sculptor, against the Municipality of Marseilles, claiming the right to have his name on the great building, The Longchamps, will take place on February 4.

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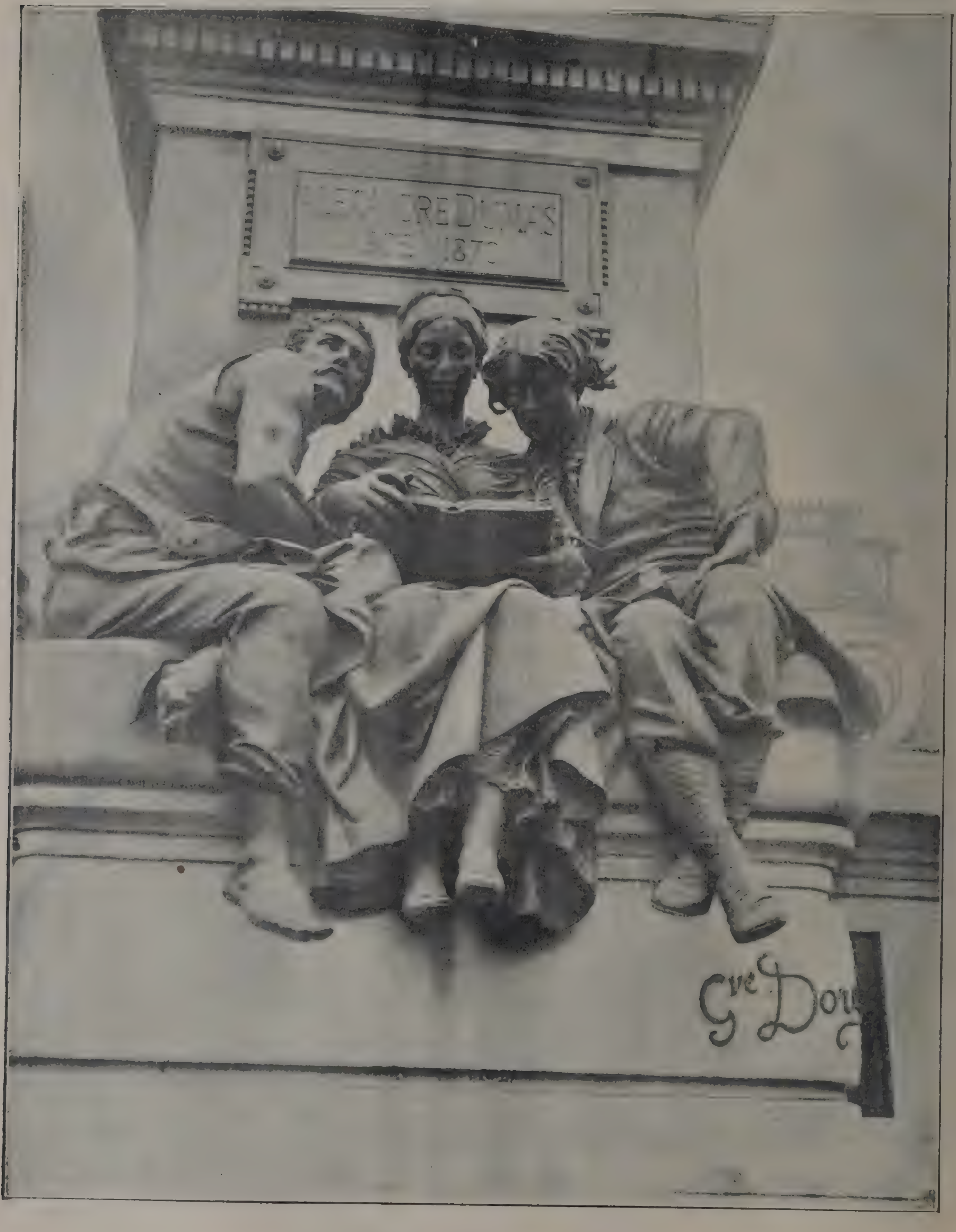
* At Maastricht, Liège, Utrecht and Tournai the cathedral chapters no doubt exercised a similar influence.

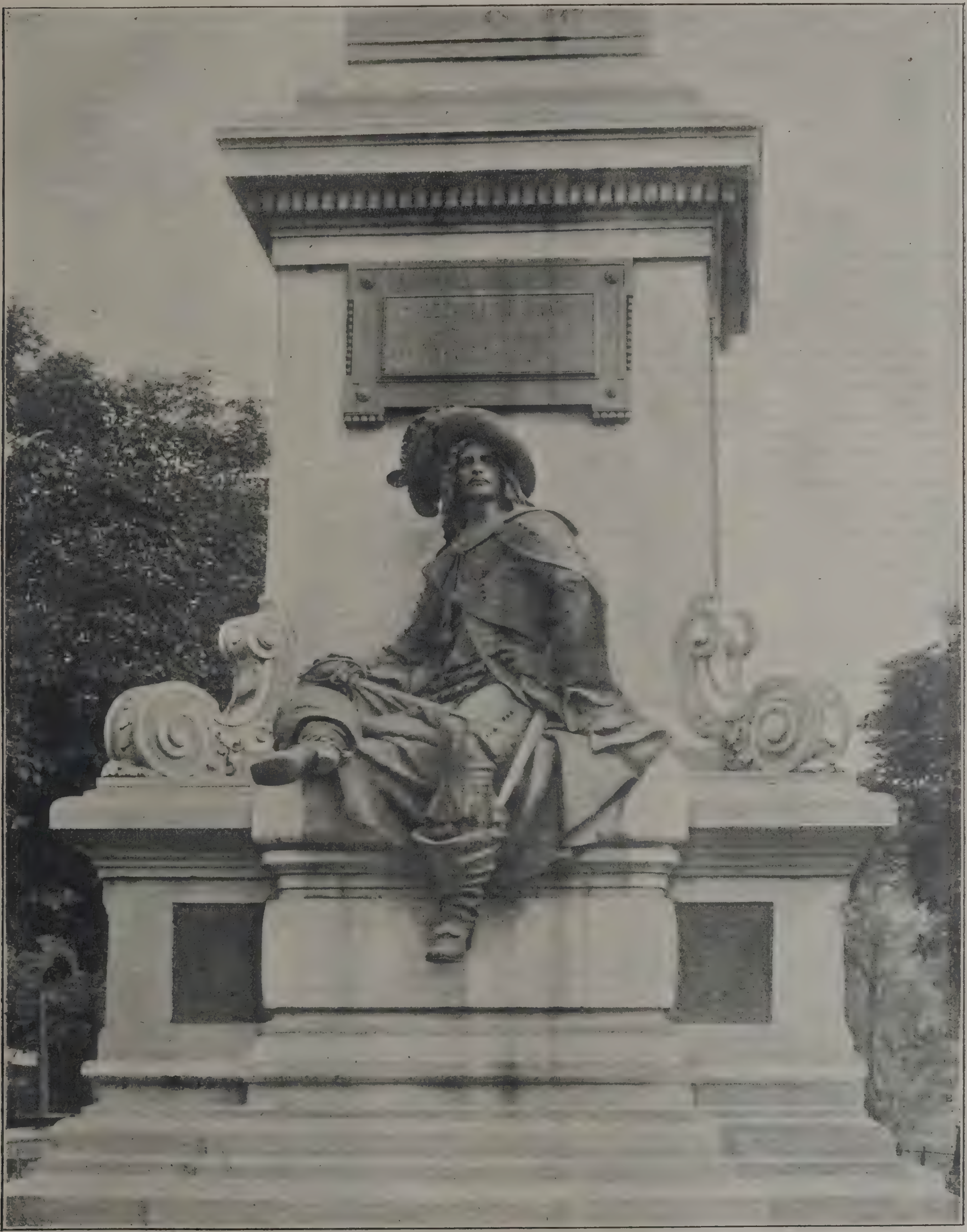
DUMAS AND DORÉ.

THERE was fitness in the selection of Gustave Doré to be the sculptor of the memorial of Alexandre Dumas in the Place Monceau, Paris. Both men were unparalleled for their productiveness in their own fields. It would be a task to count the writings of Alexander the Great or the designs for illustration of Doré. They were phenomenal, and we may never look upon their like again. Both did not receive the highest meed of praise in their own country. A greater variety of editions of Dumas have appeared in London than in Paris, and Doré was raised above all the risks which beset a draughtsman for journals by the splendid rewards he received from England. There can be no doubt his pictures were praised among us beyond their merits, but where is the artist who when he sees crowds acclaim his works would have the courage to say *non sum dignus?* His countrymen would not admit that Doré was a painter; they considered him as a draughtsman on wood and no more. He was so afraid of sarcasm that his contributions to the Salon were on a small scale and were mostly landscapes. Perhaps he was spoiled by England. If he could not paint anatomically perfect figures he was less competent to work in bronze. Several years ago we published an illustration of a centrepiece by him, which was



THE READERS OF DUMAS. (*By Gustave Doré.*)

nearly equal to the average works which are to be seen in the shop windows of the bronzists on the boulevards, while it had qualities which a "sculptor to the trade" would not dare attempt. But a statuette of *Night* was an easy undertaking compared with the large figures of which we give illustrations. They have a plasticity which could not be acquired in a sculptor's atelier. But on that account they correspond with Dumas's own creations. French writers who labour hard in order to discover the most fitting words in the dictionary, and who seek to gain admittance into the Academy by polishing a volume as if it were a gem, cannot admire the amazing activity which was supposed to be due to the employment of operatives in a literary factory, and by the adoption of a system in which no time was allowed for thinking. Doré's figures are not equal to the *Departure of the Conscripts*, by Rude, on the great arch in the same district, but then the subjects to be represented are of a different class. Who would care, for instance, to subject D'Artagnan and his adventures as they are related in a host of volumes to microscopic criticism? In his own little volume of memoirs and in Madame Sevigné's letters, the Captain of the Musketeers appears to be a rather simple gentleman. Doré's



D'ARTAGNAN. (*By Gustave Doré.*)

Captain realises Dumas's description, and both can afford much pleasure to those who are not hypercritical. As to the *Readers of Dumas*, who are seated on the pedestal, they are not suggestive of scholars; they are simple Parisian folk. When Thackeray saw a boy engrossed in a novel at Coire, he came to the conclusion that the young rascal was neglecting school, study, domestic duties and what not, because he was enthralled by "Monte-Cristo," by the "Three Musketeers," or some other of the thousand and one romances. Indeed, Thackeray himself with all his ethics was not proof against the temptation. He tells us how he has read Dumas all day long in bed, and although the ladies of the household were clamouring for the volumes, he was deaf to their cries. Dumas is a universal benefactor who has afforded enjoyment to many in the intervals of trouble, and while admitting he is neither archæologically nor historically correct, he can, with all his shortcomings, compel the reader to transpose himself into a past age and to pass through the courts and camps and castles as if he did not belong to this nineteenth century. It is no wonder, therefore, that the Parisians wish to have one of their boulevards renamed after him.

MURAL PAINTING IN ITS RELATION TO ARCHITECTURE.*

A DEFINITION is a good thing to begin with, and I trust in this case a negative definition may be a still better beginning.

In the first place, mural painting is not the mere application of tints to architectural surfaces. Yet I venture to say that to many architects this whole question is a mere afterthought, left to the dregs of their appropriations of time and money.

Some architects would seem to consider it but a concession to the weakness of their clients; considering, themselves, that any interference with the whiteness of the structure is a thing to be regretted.

Under such haphazard influences, having passed through the gloom of the "black-walnut period," we seem to have emerged into an era of "white and gold," which has not inaptly been termed "the last resort of feeble minds;" it might otherwise be termed the first. Imagine St. Mark's or the Capella Palatina done in white stucco, with only the decorated members picked out in gold.

The colour of a building is an important factor in its effect. And mural painting, as the application of colour to architectural surfaces, is not a matter of caprice, still less is it of secondary importance.

In your use of architectural forms you have a reason for their employment; precedent and the inevitable logic of new conditions influence your choice of details and the use you make of them. By no means the least of these details is colour. In the form of your building colour bears much the same relation as it does to the human form; it distinguishes the living from the dead.

> So coldly sweet, so deadly fair,
> We start, for soul is wanting there.

Byron was speaking of modern Greece; he might have been speaking of much of our modern architecture.

When I speak of the colour of the human body it is not of the application of artificial cosmetics to the complexion, but of the varying tints which play over the surface of the healthful body, not only differing according to the actual surface, but corresponding to the different play of the muscles underneath. In a word, the colour of the human body is organic. Precisely so should be the colour applied to architecture. Its values are threefold. Colour should be constructional always. It is good if it is expressional also and agreeable in texture and tone.

In regard to the constructional value of colour, you recognise the principle in your exterior construction by your choice of materials. You continue to recognise it in the interior finish by the use of mosaics, natural woods and metal-work. Why then deny it to the applied colour treatment of constructive surfaces? If you do not deny it in theory you too often ignore it in practice. That which supports weight should have the appearance of sufficient strength to carry the weight. Trivial or flimsy colour makes your solid wall appear to be so in reality.

You reduce stresses and strains to an exact basis, yet the colour which clothes your construction receives but scant consideration. Certain architectural forms express clearly their purpose or origin; as the dome, its pendentive, the frieze and the lunette. The forms mean something in the building, the colours they bear must express that something or their meaning will be lost. The dome crowns the structure and suggests the heavens which are above the earth, therefore its colour should relate to its structural form and send it swinging farther up into the sky itself. The pendentives lock together the supporting arches, and in colour should appear to be as solid and resisting as they really are. The frieze binds the whole together, and must be a ligature of colour as well as of structure. The lunette is a resultant form, and may be treated with much greater freedom in colour than if it were a supporting form.

In the mural painting of the dome and rotunda of the Library of Congress the colour scheme was based upon the various marbles used in the great order of piers and their connecting arcades. The piers are dark Numidian, standing on a base of dark Tennessee. The engaged column is of a lighter red. The two-storeyed arcade which connects the piers is built of rich tawny Siena. The capitals of piers and columns are of plaster, and all above this point is of the same material. The problem was to build up a constructional colour scheme, with the coloured marbles as the foundation. First, the groups of capitals crowning the piers were solidly gilded; then the entablature was treated in gold and gold colour, forming a cincture to bind together all the great supporting masses. The pendentives above the piers were painted a grey red, recalling the colour and supporting power of the marble below. The arches in lighter tones of the Siena beneath them, and the secondary frieze of eagles, resting on the arches and forming the drum of the dome, is again treated in gold. The inner surface of the dome is practically encrusted with plaster ornament, rendered in grey. Its coffers bear gold rosettes, relieved against a blue ground.

Considering the height of the dome, the blue in these coffers has been varied, in order to avoid monotony; and this has been accomplished, not by mixing the colours before they were applied, but by painting certain small mouldings that frame the coffers in yellow or red, so the blue in one section of the dome appears slightly greenish, while the next has a slight violet tone by the complementary contrast thus introduced. Finally, the collar of the dome is enriched by Mr. Blashfield's figure composition, executed on a blue ground. The whole is one of the largest interior surfaces treated in colour in America, and the entire scheme is an example of the constructional value of applied colour.

The second value we have claimed for colour is that it should be expressional. Nor is this entirely a sentimental consideration. Our impressions are received through the senses, and certain colours create certain mental impressions or impulses. Mankind is not alone sensitive to these impressions, and for a pertinent, if not a perilous, demonstration of this fact, try waving a red cloth before the eyes of a healthy bull.

The blue of the sky dominates every fair landscape, and we associate it with vast space and soaring height. It has been associated with religious faith from the remotest times, and the roofs and domes of both pagan and Christian temples bear witness to the sentiment expressed by it to man in all ages. The green of nature is reposeful. It reminds us of the cool depths of the forest and the peaceful quiet of the country side. Yellow, the colour of sunlight, is joyous and brilliant, and within its scale lies gold, always a human attraction. Absolute black suggests negation; it is sad to us and we'll none of it. White, on the other hand, stands for purity, cleanliness of body and mind, and we associate it with angels and virgins. Red, as before suggested, is an exciting colour, is associated with festivity and "a hot time." We shall appreciate its value in mural painting the better after seeing Pompeii.

The expressional value of colour is also associated with local and climatic conditions. The peculiar and persistent atmosphere of Pittsburgh affects our colour perceptions differently from the clearer environment of the coast cities. New England has a different complexion from the south, consequently demands a different prescription; while Old England and Italy are still farther apart in respect to colour expression.

The third value of colour includes texture and tone. What is called a "good job" of painting is infrequently a satisfactory finish for an architectural surface. Its smug perfection is inartistic. We resent the paint. Copy a tapestry—colour for colour, pattern for pattern—on a wall and hang the tapestry beside it. The one is tame and uninteresting because it lacks the texture of the other.

In the Piccolomini Library at Siena, a series of inscriptions in gold on a blue ground runs quite around the room, just above the principal frescoes and above the stylobate, forming both a base for the paintings and a strong colour band of great value. Mr. McKim desired to use the same motive in Bates Hall, in the Boston Public Library, but as no paintings yet existed in the wall-panels above that might have suggested suitable inscriptions, and as in this instance, at least, no Bostonian would have been bold enough to suggest a description of something which did not exist, the flat painted surface, unrelieved by lettering, lacked interest. The problem was how to give these surfaces a suitable texture. It was solved by casting the panels, into which the band is divided, from a strongly marked bull's hide, giving the finished work the effect of painted leather. To answer your question, Why not have used real leather instead of imitating it in plaster? the heat-flue openings occur directly behind these panels, and leather is not a good heat-resisting material.

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* A paper by Mr. Elmer E. Garnsey read before the Thirty-third Annual Convention of the American Institute of Architects, and published in the *American Architect*.

But how shall we achieve texture in paint on a smooth wall? It certainly cannot be done by the ordinary methods of house-painting, nor secured through the usual painter's specification. Different technique and processes must be employed. Scumbling, or dragging an opaque colour over the surface, and then glazing with transparent colour, is one method; tricks and experiments, failures, and finally success, may be achieved by the expenditure of time and money.

Tapestry and leather are also expensive wall-hangings, and texture in colour cannot be secured without proportionate cost, while it may be made as beautiful, in its way, as either of these, capable of honourable association with the finest woods and marbles and the choicest products of loom and needle.

The Romans had a high appreciation of the value of architectural colour decoration, and some consideration of the methods of Pompeian painting may aid us in the illustration of its principles. Many of even the smaller Pompeian rooms possess a wonderfully monumental character. There is little to be seen in them but the wall-paintings; the ceilings have disappeared, hardly leaving a hint of their construction. The mosaic floors are concealed by a layer of pumice and ashes; a few columns remain without entablature, and doors and windows are but crumbling apertures. Yet the scarred walls have kept their glories of colour for eighteen centuries, and there exists the greatest academy for the study of mural painting in the world to-day.

The laying-out of these wall-paintings is essentially architectonic in character and method. A dado or stylobate of dark colour, greyish, brownish, or purplish-black, the main wall-surface panelled with the primary or secondary colours, the style and rail in white or yellow and the frieze above in some pale colour, white or grey. The general divisions were first laid on in broad, solid masses of colour, then the ornament, foliage, or figure subjects were painted on them in a thick impasto, sometimes appearing to have been executed with a spatula rather than a brush. Finally, the whole surface was rubbed with wax and beautifully polished. These walls exhibit the value of colour in its application to architecture in the relations under which we have been considering the subject of colour. The colour is constructional, it is frequently expressional, and its texture and tone are superb.

The ornamental forms with which the Pompeian walls are decorated do not always arise from their construction, but they are so invented and disposed that the wall is made beautiful, which is almost the best that can be asked of the mural painter. A sufficient suggestion is made of the structural character of the wall, but the painter did his work with the greatest freedom, not attempting to deceive us by a pictorial treatment, but preserved the vertical plane of the wall, while tracing upon it a pattern of perspectives, landscapes, or figure paintings.

Tone in mural painting is that almost indefinable saturation of the whole work that, like the atmosphere of Indian summer, melts the landscape into one delicious colour impression. The first impression one receives in the Borgia apartments in the Vatican, painted by Pinturrichio, is that of an exquisite tone or bloom which pervades the whole. A dusty-grey purple and equally dusty and grey gold seem to have crept over the whole interior. Nowhere does one or the other become a dominant colour-note. Everywhere they are both felt rather than seen. When we examine the technique of the painter we find that gilding has been carried through the entire work by such subtle means and by such rare judgment that there is almost a patina of gold over the painted surfaces and the ornamentation in relief as well. The architectural forms introduced into the backgrounds, the embroidered hems of the costumes, the details of armour, jewellery and other accessories are modelled directly on the wall in slight relief, and everywhere this relief is touched with gold. Not only these, but the fruit on the trees, the flowers in the foreground, the distance, and even the sky itself have been brought under the same convention by carrying over them all a sort of diaper of little dots in relief, each of which is deftly gilded. By these means the eye is never allowed to receive an impression unaffected by gold. Again, by contrast with the dull yellow of the gold every other colour is tinged or affected by the complementary of gold colour, which is purple. It is by the judicious juxtaposition of complementary colours that this neutralised bloom is secured, and no painter who may be called a colourist can be ignorant of their value.

Mural painting is not only a question of colour, but of pattern. And by pattern we mean any sort of breaking-up of spaces by design, whether by lines, ornaments or figures. Much confusion exists in the study of design. The painter studies from the figure; the designer studies ornament. The architect studies both, but not in reference to colour. The whole matter of surface decoration becomes a question of pattern, and in taking up the subject let us consider it under these three heads—pattern, balance of pattern, and flatness.

As soon as we leave unbroken planes and begin to cut them up in any way, by ornament, by figures or by lines, we begin to work a pattern. The first condition that must be fulfilled on a painted wall is that it shall be an agreeable piece of colour. Then, is it ornamental? Does it cut up into a good pattern? Then, what is it all about? What are the names of all these gods and goddesses? Unfortunately these questions are usually reversed. Take Sargent's work in the Boston Public Library. It has been criticised as confused. The first impression we receive in looking at it from the top of the staircase is of a rich brocade. It is a splendid piece of colour hung in the shadow of a vault. Then, as we approach, a sort of intricate pattern in red and gold appears, and then we find that this is really composed of groups of figures, vast wings and strange emblems, shadowy forms of pagan birds and beasts. If it appears confused it is because the artist has delved into the mysterious religions of the past, and has expressed in his work the confused ideas of religion that then prevailed. There is no confusion of design when he represents the simple truths of our religion in the frieze below the lunette. The line of prophets is as majestically simple as a row of columns.

The use of the human figure in the pattern is valuable as a part of that pattern. The beauty of the pattern is not entirely dependent on the figure. A wreath or cartouche is equally valuable if properly used, and architectural motives, landscapes and geometrical forms each have their value and place in good pattern-making.

The second consideration of pattern is balance. Balance of empty spaces with detail; of colour with form, and of ornament with simplicity. In Mr. Vedder's lunette called "Rome," in the Walker Art Gallery at Bowdoin College, the architectural background is not only valuable as a ground against which are displayed figures and symbolical devices; its balanced masses and central opening give symmetry and restfulness to the composition. And the principal figure with its supporting groups are studied not only for their own fine contours, but for the shape and size of the spaces which occur between and about them. Indeed, no work by this painter lacks the keenest perception of balance of pattern, whether it be in mural painting or in book illustration. The lunette form especially demands balance of pattern and stability of design. Its decoration should not appear as a procession that moves across it, emerging, apparently, from the frame at one side to disappear at the other. The frieze is the place for the procession. Its form demands treatment which shall suggest continuity or repetition. That of the lunette an arrangement that shall be complete in itself. For the wall that ends a vaulted ceiling stops the succession of arches or vaulting, and its design must express stability. An interesting comparison of figure-patterns applied to the decoration of lunette forms may be made between the work of Messrs. Melchers & Cox in the Library of Congress, where in identical spaces they have proceeded upon opposite theories of design.

The Abbey decoration in the Boston Public Library can hardly be considered a successful example of balance of pattern. In the first place, it is a frieze broken into a series of panels of arbitrary lengths, the reason for which is not obvious. Such divisions of a continuous surface, without architectural reasons for their existence, are at once disturbing. There is no balance of decorated and plain surfaces in the individual panels, nor is the same general plane carried along over the painted wall. As illustrations of the Holy Grail legend they are interesting pictures; as mural paintings they lack relation with the architecture.

On the other hand, the work of Chavannes in the same building relates very closely to the architecture. As colour it harmonises perfectly with the marble which frames it; as pattern it is in scale with the architecture, and a fine balance runs through the whole series. Landscape plays an important part in Chavanne's pattern. The rocks and hills, sky and water, masses of earth, trees and building, serve in the making and balance of the pattern, quite as well as the human figures. In one panel sea and sky balance each other. In another an unbroken mass of sky is contrasted with a mass of flower-broidered earth. On the long wall the principal line is that made by the Muses ascending towards the genius in the centre. These figures are not disposed in perfect symmetry, yet they do maintain the requisite balance, and their general trend triangulates with the central doorway.

Another equally valuable example of balance of pattern may be seen in La Farge's "Ascension" in the Church of the Ascension in New York. The disposition of landscape, masses of clouds and of angels above and disciples beneath create perfect balance of parts, and the placing of the figure of Our Lord at the exact point where it dominates the whole, although this is not the actual geometric centre of the space.

The third consideration of pattern is flatness. The word does not perfectly express the subject, which includes the much-discussed question of the wall as a solid and unpierced plane. The stricture is frequently made that the mural painter makes holes in the wall. There is no law, however, that defines how much flatness is desirable, nor are there rules as to how it is to be obtained. Absolute flatness and entire disregard of modelling would be wearisome to both the eye and the imagination. Absolute disregard of the wall as a constructive surface is equally offensive to the reason. Giotto's style is sometimes cited as the ideal technique for mural painting; but it must be remembered that Giotto painted in the way he did because he knew no other way. Nor are the conventions of the Japanese of much greater value to the painter of to-day. The landscape-painter seeks to destroy the actual vertical plane of his picture by leading us insensibly off into his aerial distances.

The patterns of primitive peoples are perfectly flat, and at the same time quite incapable of inspiring lofty imagination.

Referring to the Pompeian walls, we often find a sort of linear perspective employed in their patterns. There is no attempt at actual illusion, yet in those small rooms the effect of these devices is to give us some suggestion of breadth. We are not led out through the wall into out-of-doors, but some impression of the outer world has been brought in to us.

Architectural forms, when treated in the grand style of Raphael's *School of Athens*, do not offend us by any undue suggestion of extra-mural nature. That noble vista of arches, while it stimulates the imagination, is no panoramic or illusive background.

It would seem, therefore, that while linear perspective may be reckoned as of much value in mural painting, aerial perspective had better be left to landscape painting.

The treatment of the figure in regard to flatness of execution opens up a still wider field of discussion, as precedents may be found for almost any degree of modelling, from an absolute silhouette to the frankest naturalism.

Some painters satisfy themselves by using a strong outline around the figure, which is so evident a convention that it flattens everything within its boundaries, and allows sufficient modelling in a lighter key to express the action of the figure. The difficulty they encounter is that the strong contours thus obtained do not always form an agreeable pattern, and the gain in one quality is at the expense of another.

Perhaps some study of the sculptor's technique might be useful to the mural painter, especially of such work as the low-relief decorations of certain Roman vaults and tombs. The contours are strongly marked in some places where the tool has cut deeply into the fresh plaster. Again, there is no line at all where the figure emerges from the ground, and its contour is entirely left to the imagination.

There are many ways of achieving beautiful results, and general principles rather than dogmatic statements should guide us.

In conclusion, I beg to recapitulate the propositions under which the relations of mural painting to architecture have been considered :—

1. That colour shall be treated with the same seriousness accorded to form.
2. That it has these essential values—constructional, expressional, textural and tonal.
3. Colour is beautiful in itself, without ornament.
4. If design or pattern be introduced, it must be architectonic and not pictorial in character.
5. The essential characteristics of pattern are three—pattern as such, balance of pattern, and flatness.

PRESERVATION OF HISTORIC MONUMENTS IN INDIA.

IN reply to an address presented by the municipality of Brindaban, Lord Curzon, referring to the famous temples and shrines of that place, said that a great and becoming reverence is paid by humanity to the birthplaces of heroes and the sanctuaries of nations. In Brindaban the piety of devotees has adorned the locality with some of the most magnificent temples that have been erected in modern times—all of them under the secure and even-handed protection of British rule. "But your most considerable ancient structure, the temple of Govind Deva, which I have seen described as the most impressive religious edifice erected by Hindu art in Northern India, also owes its restoration to the British Government, which twenty-five years ago allotted a sum of more than 30,000 rupees to the task." Lord Curzon said he referred to this as exemplifying what he thought was one of the primary duties of the government in India. "I regard the stately, or beautiful, or historic fabrics of a bygone age, independently of the purpose for which they were set up or the faith to which they were dedicated, as a priceless heirloom, to be tenderly and almost religiously guarded by succeeding generations, and during my administration of the government of India no one shall find me niggardly or grudging in the practical realisation of this aim. We are not ordinarily so rich in originality ourselves as to afford to allow memorials of an earlier and superior art or architecture to fall into ruin, and I regard the conservation of the ancient monuments of India as an elementary obligation of the Government." At Agra, a little later, the Viceroy repeated these opinions, and said that his hearers would easily understand the scrupulous and jealous care with which he should apply them to the priceless relics of the Mogul epoch at Agra. The British public, he thought, had now purged itself of the spirit of stupid and unlettered vandalism which led it in earlier days to turn disused palaces into barracks and to cover with whitewash the exquisite decorations of the classical age; much care was now devoted to the examination, illustration, preservation and repair of ancient monuments, and large sums were expended annually in maintaining the Taj, the palace in the fort at Agra, the tomb of Akbar at Sekundra and his deserted town of Fatehpur Sikri. He purposed, he said, examining all these buildings with the most minute care, "and I shall not rest satisfied until, in each case, the structure has been rendered secure against the ravages of further decay, and has received such attention as may be feasible and desirable in the faithful renovation or reproduction of that which has been injured or destroyed."

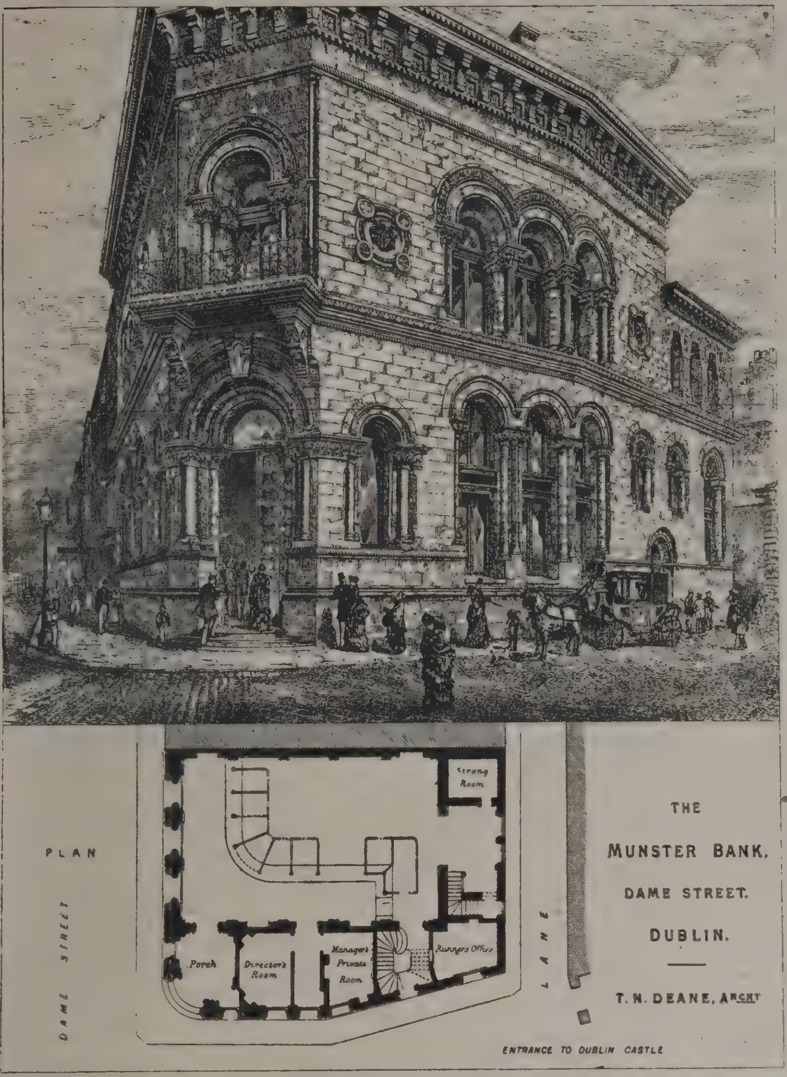
THE BUCKS ARCHITECTURAL SOCIETY.

A MEETING of the committee was held at the Society's rooms, Aylesbury, on the 19th ult., Colonel Goodall, one of the vice-presidents, being in the chair. Several subjects of archæological interest were considered by the committee. Mr. A. H. Cocks reported on the results of this year's excavations at the Hedsor pile dwelling. Mr. Cocks also reported on some very interesting Anglo-Saxon finds near Newport Pagnell. Mr. J. Parker referred to the resolution passed by the Society of Antiquaries, indicating the steps which should be taken to preserve from ruin the ancient parish church of St. Mary, Stoke Mandeville, and read the communication he had received from the Archdeacon of Buckingham in reply thereto. A resolution was passed, suggesting the formation of a small committee for the purposes of the preservation of this church, subject to the sanction and co-operation of the vicar and churchwardens of the parish to the course proposed. The attention of the committee was also called to the proceedings of a recent parish meeting at Chalfont St. Giles, in reference to the Milton Cottage Trust, and the importance of securing the buildings as a national memorial of the past was expressed.

The following gentlemen were elected members :—Mr. Alfred E. Flood, Rowborough, Cookham; Mr. Philip Butler, Tickford Abbey, Newport Pagnell; the Hon. Cecil S. Irby, Hitcham Grange, Taplow; and the Rev. Bruce Rhind, Haddenham Vicarage, Thame.

MANSIONS OF GENOA.

IN the Via Balbi, the Strada Nuova, the streets of palaces, some half-dozen of those vast mansions on either side are quite enough to form a street; and as you pause at door after door of the six you look in upon a splendid vista of arches and columns, perhaps enclosing a green nest of orange trees or widening into a magnificent court, from the ample marble sides of which rise the staircases which lead to the house. Then, though they are alike, there is a variety in each; one springs upwards on graceful marble columns to a domed roof, and beyond throws only some three or four broad low steps between you and the orange garden, against the fresh green of which the pillars shine. Another reveals to you its miniature quadrangle, cloistered round at the top of a short but princely staircase, down which on either side a pair of gigantic lions have been rushing, when some sudden spell arrested their course and fixed them there. Next door the prospect widens, and one court draws itself out within another, with perhaps a gallery and grand balustrade behind, from which the inmates, cool in the shadow of their own lofty roof, could hear their fountain trickle as it played. Whosoever would see the fountain, if it chances to be a work of note, or would examine the frescoes if there happen to be any about hiding among the columns, or would simply look at a kind of architecture so liberal and princely, may enter as he will; and if there is a collection of pictures above, which is exceedingly probable, is free to penetrate into the salons without either fee to pay or warrant of respectability to offer. These open courts and columns are a somewhat handsomer way of withdrawing oneself from the street than by building a dead brick wall between the thoroughfare and one's gentility; and it is these princely entrances which gain for Genoa her distinction of "La superba." The buildings themselves are no doubt grand and imposing, but in this is the characteristic and remarkable feature.

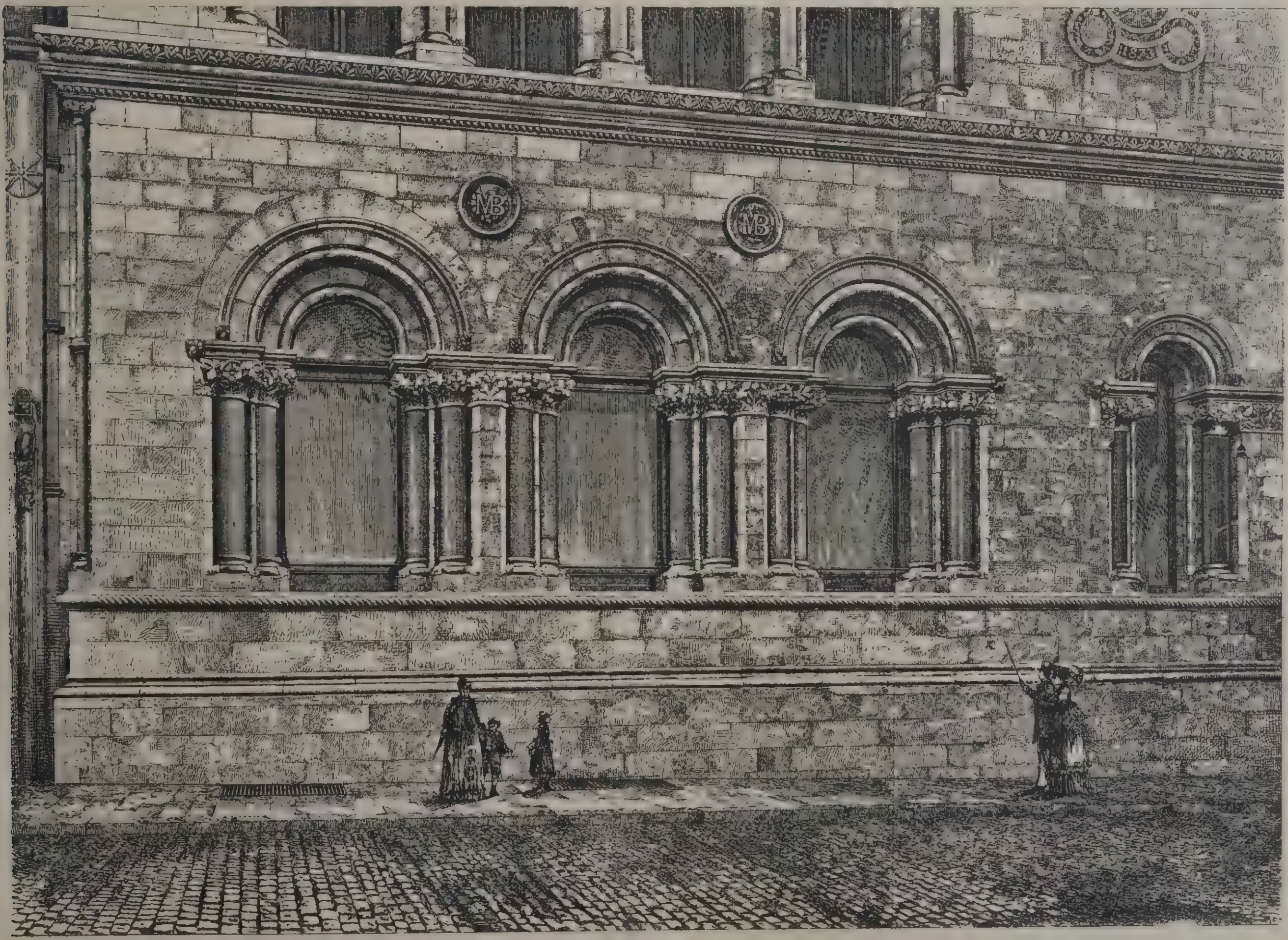


THE MUNSTER BANK, DUBLIN.

In our notice of the career of the late Sir Thomas Newenham Deane, we mentioned among his works the Munster Bank, erected from his designs in Dublin. As a quarter of a century has passed since illustrations of it appeared in *The Architect*, we may be allowed to again present the building to a new generation of readers. The building, it will be seen, like similar structures in Fleet Street and Bridge Street, Blackfriars, London, was an experiment in the adapting of an Italian style to modern needs. The severity of pure Classic was avoided, as was the monasticism of Gothic as then practised. The windows and doorways were wide; there was no feature to suggest a period when private buildings were expected to be able to sustain a siege. On the other hand, there was opportunity offered for ornamentation in capitals, moulding, and wherever such work was considered to be desirable. The style was also suggestive of endurance. In the two London examples we have referred to, advertisement boards and other things subversive of architectural dignity have been set up from time to time without much regard for the appearance of the buildings. They are, however, contingencies to which all offices are liable. It is also possible by abstraction to eliminate the excrescences, and imagine the buildings as the architect designed them.

At a time when novelty was sought, it is strange that the style of which the Munster Bank is an example did not find more support. It was well adapted to display new materials, manufactured and natural, and to allow scope for the sculptor and the mosaicist, as well as the mason. But in the struggle for approval it had to give way to Queen Anne.

The material employed was limestone for the walling, with Portland for capitals and other carved work. The total cost was about 21,000*l*., a moderate sum for a building which stands in a prominent position and is an ornament to Dublin.



ART ENAMELLING UPON METALS.*

THE word enamel seems to be derived from the German smeltzen—to smelt. It was originally spelt esmail, whence it became émail in French and enamel in English.

The art consists in melting glass on to the surface of any body that will bear the necessary heat. Thus we have enamelled metals and enamelled pottery. Clay, as you know, consists of silicate of alumina and other earths, and shades away from refractory fine clay to porcelain, which melts at no very great heat; that the glaze on all these materials consists of glass.

Glass is a silicate or borate of some of the alkaline earths, or else a silicate of an oxide of some metal. In its simplest form glass consists of silicate of soda or potash. When the amount of the alkali is only about one-sixth or one-fourth the weight of the silica, the glass is practically insoluble, but the more silica is added the more soluble the glass becomes, until when the alkali amounts to four or five times the quantity of the silica the glass becomes soluble, and is known as "water-glass."

A mere uniform glaze of glass, such as is used to cover pottery and porcelain, is sometimes termed enamel, but more strictly the word is only used when the glaze is laid on so as to form a design. The use of the word should also in strictness be confined to cases in which coloured glass is employed, laid on in masses like washes of colour, and not to work painted with a brush.

Thus when china or metal is covered with solid coats of glaze it is said to be enamelled, but stippled ornaments or landscapes upon Dresden china or Battersea ware are not enamels properly so called.

In practice the word is loosely employed, and it is usual to call all applications of melted glass upon metal by the name enamel, so that the term is employed for saucepans and other kinds of household ware made by coating iron with vitreous material. The so-called enamels used on bicycles are not true enamels, but only preparations of pitch or other resinous substances, which are hardened by baking them for two or three hours in ovens at a temperature rather higher than that of boiling water. Used in this way common Japan black produces a hard and beautiful surface, but it is not a true enamel. Enterprising tradesmen sometimes mix two or three pennyworths of paint with a hard varnish, strain it and sell it in tins as "enamel." Ladies' faces are also "enamelled" by the application of certain cosmetics. But these are all improper uses of the word.

It has been found that several metals, among which are gold, silver, iron, copper and fine bronze, that is to say, copper with a small admixture of tin, are capable of being covered with glass, fused on to them by means of heat. But to other metals, such as nickel or zinc or brass—which is a mixture of copper and zinc—the glass will not adhere. The usual method of applying the glass is to reduce it to fine powder, to spread it over the metal in a thin layer, and then to put the metal into a furnace raised to a red heat until the glass melts.

Glass is coloured by melting it with the oxides of various metals. Oxide of tin makes it opaque white, iron gives a sea green and a yellow, cobalt a royal blue, copper a turquoise blue. Manganese colours glass violet, silver and antimony yellow, and gold crimson. These were the metals used by the old enamellers. In addition we now have chromium, giving another shade of green; uranium, a fine yellow; and iridium, giving steel grey and black. The nature of the glass used in enamelling, and the mode of making it, colouring it and applying it to metal, will be fully explained and treated practically in the subsequent lectures.

The use of coloured glass as a decoration is very old. Its first application was upon clay. Some of the oldest examples of early enamelling are to be found in the greenish blue figures which the Egyptians put into tombs in order that they might serve as servants to the dead in the next world. Its use upon metal is, however, more doubtful; many pieces of Egyptian metal-work that appear to have been regularly enamelled only consist of pieces of glass, marble or precious stones cut out and cemented into cavities in metal.

The Celts and the Goths appear to have been acquainted with the art of enamelling, which they probably learned from the Byzantines A very few pieces of Greek work have come down to us which are undoubtedly enamelled, but it does not seem probable that in the best period of Greek art enamelling was much practised.

The first extensive use of it as a decoration was by the later Greeks, who lived in the vicinity of Constantinople when that town, under the name of Byzantium, became the metropolis of the Western Roman Empire. But the remains of Byzantine art present such curious features, and when considered without reference to their historical origin appear to modern eyes so grotesque, that it is necessary to enter into some further explanations regarding them.

If we examine the remains of past Roman art in the catacombs, we find the most unmistakable indications that they were derived from classical models. The vestments, though badly drawn, are obviously togas arranged with the folds that we know so well in Roman statues.

But a change has come over the spirit of the art. The old joyous human life has been eliminated, and at first sight we are inclined to think that the art is wholly dead.

Thus, for example, the frescoes at Pompeii reflect a good deal of the voluptuous life-enjoying spirit of classical art. They are mere shadows of pictures that have ceased to exist, executed by hack artists in coloured whitewash, who did the work that is done by paper-hangers in our own day. But there is in them a distinct trace of their origin. When, however, we turn to Early Christian frescoes, as in the example, we see that all joy has faded out of it, and almost all feeling for human form; the eyes are staring, the posture constrained. In truth, however, a new spirit has entered into art, and this is its first development.

The early Christian Church had before her eyes the spectacle of a world which had perished through the immoderate use of art. Weary of the babbling of the schools of rhetoric, men turned to the silence of the cloister. The desert was a necessary protest against the gormandism of later Roman times; celibacy was a reaction against universal sexual profligacy.

And the Church, therefore, seems to have resolved to curb the arts, and for the future to retain them in the strictest leading strings.

The languishing embraces of graceful Greek gods were exchanged for the severe and even repellent types of Byzantine mosaics. But this very restraint, salutary as it was while the morals of Europe were being reformed, was not without disadvantages; for where literature or art is in complete subjection to a system of morals, religion or politics, it is certain to be cramped down and kept in bondage by artificial rules which destroy its vitality. Therefore, though the fire of Christianity purged classical art of most of its dross, it destroyed a good deal that was valuable in the process.

Thus the extraordinary capacity which the Egyptians displayed for sculpture and painting was diverted by the influence of the priests into a monotonous circle of endless repetition; and Christian art in the East was subjected to a written code by which the exact position and dress of each figure, the colour and attitudes, were minutely prescribed, and no departure permitted from rigid rules.

It is no reproach to religion that it should have restricted art. A man whose thoughts are wholly occupied with spiritual things naturally values pictures or images purely for the spiritual ideas presented by them, and may even be disturbed and repelled by the introduction of mundane beauty. The rejection of ornate ritual and church decoration is partly due to this feeling. But it is also true that an art which is intended to appeal not to Anchorites or Puritans, but to ordinary men, must satisfy not only the moral, but also the æsthetic sentiments. Therefore the perfection of national sacred art is seen when the highest beauty has been reached without the sacrifice of pure and noble religious feeling. The work of art must, so to speak, have a noble soul enshrined in a beautiful body.

Byzantine enamel was always of the kind known as cloisonné or "partitioned." It was made by marking the outlines of a drawing upon a plate of gold, and then soldering on the gold plate, over those outlines, small strips of gold, about 1-100th inch thick and 1-50th inch high. These, like small hedges, mapped out the surface into areas, which were then filled with powdered glass, melted in by means of heat. The designs were very rigid and conventional, and at first sight, to our eyes, appear even ridiculous; but this is because Byzantine art has always for centuries been subject to a written code of rules, specifically directing how various religious subjects should be treated. No scope was therefore afforded for originality, but he who will examine Byzantine enamels from the point of view of those who ordered and executed them will find much to admire. The gestures of the figures are symbolic, and even in a sense mystic. They are religious hieroglyphics rather than pictures, but as an assistance to devotion to those who were working out the conceptions which the Eastern Church brought as her contribution to Christian theology, they were probably more effectual than creations of later date.

Towards the end of the sixth century the Greek or Byzantine Church seems to have accomplished its mission. It had commenced and set on foot a new style of art—the Byzantine. It had contributed largely towards the formation of early Christian theology, it had originated and developed the monastic system; then, as if stricken with palsy, its work ended. Painting has gone on from that day to this. Many churches in Greece and most homes in Russia are still ornamented with icons. But the spirit of them is the same as the spirit of Byzantine work. The example produced of

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* A Cantor lecture by Henry Harding Cunynghame, delivered at the Society of Arts, and published in the *Journal.*

Russian work of this century is exactly the same in feeling and artistic knowledge as a piece of Byzantine work of the fourth or fifth century.

But shortly after the thousandth century the human spirit awoke. In that year it was believed the world was coming to an end, and this feeling paralysed the arts and even industry. When it was found that the end was not yet, life began to be considered worth living.

In Italy a school of architects, known as the Comacine School, had handed on the traditions of classical architecture, but with such modifications as Gothic spirit suggested. But the awakening came in the thirteenth century.

In France and Germany Gothic architecture awoke to life with the invention of the pointed arch, and the satellite arts of painting and sculpture followed the lead, so that the twelfth, thirteenth, fourteenth and fifteenth centuries present a regular and continuous progress. This age witnessed the building of the great cathedrals; but in spite of the apparent increase of episcopal power a revolt had commenced against excessive clericalism, and architecture and the subordinate arts experienced the effects of it.

Human emotions and sentiments and passions began to be introduced in connection with sacred subjects, and formal traditions were abandoned in favour of a study of nature. The way was being prepared for the Renaissance and Reformation. Under this influence the arts bloomed into the fairest forms. The capitals of pillars were festooned with field flowers; lizards and animals nestled in the foliage; kings, hunters and handicraftsmen were represented in stone.

Painting, in the hands of the early Italian masters, cast off old rigid Byzantine traditions, and the faces of Madonnas and of the Infant Jesus began to beam with human sympathy, while at the same time the limbs approached more nearly antique models, and the drapery became more flowing and natural. At this period art was imbued with the feeling for humanity, without having lost the inspiration of the divine. This union of the sublime and beautiful was the secret of its success.

The characteristic of Gothic times was carving. Almost all ornamental things were produced with the knife and chisel. Wood and ivory have never been so splendidly treated. Accordingly the mode of making enamels underwent a corresponding change. Instead of being fused into cloisons, the glass was melted into cavities cut out of solid metal. This is called champlevé. It is not clear from whence this art originated, but it is certain that Limoges speedily became its headquarters. There is reason to think that it was imported from Venice, from which place also came the lead-glass necessary to make it. The Venetians had in their turn probably learned the art of making the glass from Constantinople.

The metal employed as a foundation was bronze, that is to say, copper mixed with about 10 per cent. of tin, or else brass (copper and zinc). The hollows were cut out to the depth of about one-twentieth of an inch and left rough at the bottom, so as to give a better hold to the enamel, which was opaque, and made by staining opaque white enamel with the oxides of various metals, so as to produce two or three shades of blue and green, yellow and black.

Opaque-white was made by melting glass with "putty-powder," or poudre d'étain. This is obtained by skimming off the oxide that forms upon melted pewter (a mixture of tin and lead). Putty-powder is also used for polishing glass. The colours used for staining the opaque-white glass were "saffre," an ore containing cobalt and sulphur, which gave blue. Turquoise was obtained from the black scales that form upon copper when it is raised to a red heat, green from the scales that form on red-hot iron. Yellow was got from antimony and red from iron, and also by a special treatment from copper.

The faces in Limoges champlevé were generally left unenamelled, but chased up and filled in with black, like church brasses. Sometimes the heads were modelled in relief, and fastened on with rivets. Each colour was usually put in a separate compartment, but sometimes two colours will be found in juxtaposition in one compartment. The face of the enamel was ground and polished, and the metal-work was frequently gilded by the mercury process, which only requires a low heat. The mercurial process of gilding is one of great antiquity, being mentioned by the monk Theophilus, who wrote in the eleventh century. It was employed till it was replaced in the present century by electro-gilding. It is more durable and beautiful than gilding by electricity, but is tedious and dangerous to the health of the workman.

Gold was also used for champlevé work, but usually (except for jewellery) with transparent enamels. Unfortunately these works have been mostly melted up, but what remains of them must make us bitterly regret what has been lost. The later style of this is called "basse-taille," and consists in carving out a subject in a thick plate of gold in low relief. The mode of execution is like that used by the Egyptian sculptors. A firm, sharp outline is cut, and the figure is moulded within it. The object of the Egyptians in this sort of sculpture was that the sunlight, by casting a shadow, might produce a firm black outline round the figure, making it look as though outlined in black paint. This plan, when skilfully used, has a most striking effect. A similar result is attained in basse-taille by the greater depth of the enamel round the edges. The colours were melted all over the work, no partitions of gold being left visible. The whole was then ground and polished. The effect is exquisite. The colours employed were a beautiful transparent red made from copper, or perhaps from gold, yellow from antimony or silver, violet from manganese, steel-grey (manganese mixed with cobalt), and blues and greens of cobalt, copper or iron.

The characteristic of thirteenth-century art was its practical and didactic character. It was still in the service of the Church, and was distinctly used as all true art must be—as a means to an end—namely, to play upon and educate and influence the sentiments and emotions of man.

The didactic character of Mediæval sacred art is very clearly seen at Amiens, where the cathedral is covered with a systematic series of representations of Biblical history. The painted glass in most French cathedrals was also upon a similar plan. The painted glass in the church at Fairford, Oxfordshire, is arranged so as to tell the story of Christ from His birth to His final coming again in glory to judge the world. Until the Renaissance ecclesiastical art was generally very highly symbolic. The twelve Prophets were considered as types of the Apostles, and every legend was invested with a mystical meaning. Those who desire to see how far the use of parables can go may with advantage consult that curious storehouse of old tales known as the "Gesta Romanorum." The Roman ritual is entirely symbolic from beginning to end.

(*To be concluded.*)

TESSERÆ.

Influence of Mediæval Masons' Work.

FROM the period when the constructors of the early-Christian stone edifices raised their massive round pillars and solemn circular arches in the eleventh century down to the fifteenth, ecclesiastical architecture was the predominant art which absorbed all others, and made them either subservient instruments of its resplendent glory or humble imitators of its stately devices. It is a remarkable thing indeed—deserving of more attention from the curious and inquiring than it has ever, so far as we know, received—that everything ornamental, in whatever kind of work, within the period called the dark ages took its tone, and not only that, but its tangible form, from the ecclesiastical edifices of the day. In the decoration of churches it may be perhaps natural to find this peculiarity; yet it seems strange that wood should be carved into those forms which are necessary to meet the difficulty of creating lofty piles of stonework; and, taking analogy from other kinds of work, we would expect the stone-cutter or statuary, who has a marble slab to deal with, rather to take advantage of his compact homogeneous material than to imitate all the shifts and peculiarities which the constructor has to adopt, who must fit one stone above another. Look, for instance, at the carved woodwork, so rich and varied, in the King's College Chapel of Aberdeen. All objects of art or of nature in all the material kingdoms were in the artist's choice to select from as objects of imitation, but his choice rests on architectural arcades, church windows and turrets. These representations are pleasing as imitations of architecture, but they are not the natural forms to which woodcarving would have adapted itself had there been no such architectural supremacy as we have alluded to, leading the ancillary occupation of the carver after it in its own exact footsteps. Nay, had there been no Gothic architecture to be so imitated, and had the handler of the chisel cut his wood from his own devices into such forms as these architectural ones which we so admire, they would not have been then admirable, because we would have been without a main element in the beauty of the original device—the adaptability to give to masonry lightness and elegance of form consistently with its retaining sufficient strength. The artist of the carved wood in this chapel has crowded it with representations of Gothic windows, many of them really exquisite ones, of that rich foreign style which the French call Flamboyant. But it is from our admiration of that skill which can make solid stone rise in slender mullions, and branch itself out as if in sheer beautiful wantonness into all airy and fastastic shapes, that we first acquire our admiration of the form, so as to be gratified by its repetition on a flat oaken board, where it takes its merit from the imitative rather than the inventive skill of the artist. But for a still more striking instance of the application of edile forms to carved ornaments we turn to that gorgeous tomb of Bishop Kennedy in St. Andrews. Here are abundance of tiny clustered pillars, with groined arches over them and multitudinous windows. The imitation is carried so far that we have not only little towers careering aloft, with windows in which the wooden blinds for shedding off the rain are imitated in stone, but, to keep all in harmony, in the lower department little circular flights of steps, destined, as it were, to be descended by elfin footsteps, lead to baby crypts.

The Ananda Temple, Burma.

This temple is said to have been built in the reign of Kyan-yeet-tha, about the time of the Norman conquest of England. Tradition has it that five Rahandas, or saints of the order second only to a Buddha, arrived at Pagan from the Hema-woonda or Himalayan region They stated that they lived in caves on the Nanda-moola hill, and the king requested them to give him a model of their abode from which he might construct a temple. The Rahandas did as they were requested. The temple being built was called Nanda-tsee-goon, or caves of Nanda. The Ananda is in plan a square of nearly 200 feet to the side, and broken on each side by the projection of large gabled vestibules, which convert the plan into a perfect Greek cross. These vestibules are somewhat lower than the square mass of the building which elevates itself to a height of 35 feet in two tiers of windows. Above this rise six successively diminishing terraces connected by carved converging roofs, the last terrace just affording breadth for the spire which crowns and completes the edifice. The lower half of this spire is the bulging mitre-like pyramid adapted from the temples of India, the upper half is the same moulded taper pinnacle that terminates the common bell-shaped pagoda of Pegu. The gilded htee caps the whole at a height of 168 feet above the ground. The building internally consists of two concentric and lofty corridors, communicating by passages for light opposite the windows and by larger openings to the four porches. Opposite each of these latter and receding from the inner corridor towards the centre of the building is a cell or chamber for an idol. In each this idol is a colossal standing figure upwards of 30 feet in height. They vary slightly in size and gesture, but all are in attitudes of prayer, preaching, or benediction. Each stands facing the porch and entrance on a great carved lotus pedestal within rails, like the chancel-rails of an English church. There are gates to each of these chambers—noble frames of timber—rising to a height of 24 feet. The frame-bars are nearly a foot in thickness and richly carved on the surface in undercut foliage; the panels are of lattice-work, each intersection of the lattice marked with a gilt rosette. The lighting of these image-chambers is, perhaps, the most singular feature of the whole. The lofty vault, nearly 50 feet high, in which stands the idol, canopied by a balance of gilt metal curiously wrought, reaches up into the second terrace of the upper structure, and a window pierced in this sends a light from far above the spectator's head and from an unseen source upon the head and shoulders of the great gilded image. This unexpected and partial illumination in the dim recesses of these vaulted corridors produces a very powerful and strange effect, especially on the north side where the front light through the great doorway is entirely subdued by the roofs of the covered approach from the monastic establishments. The four great statues represent the Buddhas who have appeared in the present world-period.

Tumuli at Kertch.

Foundations of ancient buildings and heaps of brick and pottery are still scattered over the hill of Mithridates; but the most remarkable ancient remains are the numerous tumuli round Kertch, in which many valuable works of art have been discovered. The most extraordinary of these tumuli are those of the kings, situated at the mountain called Altum-Obo, or the golden mountain, by the Tartars. One of the tumuli is in the form of a cone, 100 feet high and 450 feet in diameter, and cased on its exterior with large blocks of stone cubes of 3 or 4 feet, placed without cement or mortar. This remarkable monument has been at all times the subject of mysterious legends, but the entrance to it was not discovered till 1832. This entrance led to a gallery constructed of layers of worked stone without cement, 60 feet long and 10 feet high, at the end of which was a vaulted chamber 35 feet high and 20 feet in diameter, the floor of which was 10 feet below the floor of the entrance. This chamber, however, was empty, though on the ground was a large square stone on which a sarcophagus might have rested. This tumulus stands at a spot where two branches of a long rampart meet, which extends north to the Sea of Azof and south-east to the Bosphorus, just above Nymphæum. It was probably the ancient boundary of the territory of Panticapæum and of the kingdom of the Bosphorus before the conquest of Nymphæum and Theudcr'a. Within the rampart, 150 paces to the east, there is another monument of the same kind, but unfinished. It consists of a circular esplanade 500 paces round and 166 feet in diameter, with an exterior covering of cyclopean masonry, built of worked stones 3 feet long and high, of which there are only five layers. But the greatest discovery has been at the hill called by the Tartars Kul-Obo or the hill of cinders, which is situated outside of the ancient rampart and four miles from Kertch. Here is a tumulus 165 feet in diameter; and as some soldiers were carrying away from it, in 1830, the stones with which it was covered they accidentally opened a passage into the interior. A vestibule 6 feet square led into a tomb 15 feet long and 14 broad, which contained bones of a king and queen, gold and silver vases and other ornaments. Below this tomb was another, still richer; and from the two no less than 120 lbs. weight of gold ornaments are said to have been extracted. From the forms of the letters found here, as well as from other circumstances, it is supposed that the tomb was erected not later than the fourth century B.C.

Supremacy of Architecture.

When we consider the multiplicity of requirements that are necessary to constitute an able architect, we must conclude that this science should rank as sovereignly supreme over all other arts Sculpture and painting are far inferior to architecture in many respects; nor can either of the former excel it in attesting the majesty of religion, the fortunes of a people, or the power of kings; in a word, it requires greater genius for its development than all the other arts. In fact, architecture may be said to be the grand chronicle, not of an individual, but of nations. Time, that destroys all the productions of the pencil and the chisel, seems to concede immortality to architecture, and privileges it to record the prosperity and glory of nations and races. The Pyramids of Egypt, the Flavian Amphitheatre and the Parthenon are so many adamantine volumes attesting the genius and power of the Egyptians, Greeks and Romans.

Richard Wilson's "Figures."

Sir Joshua Reynolds told Price that when he and Wilson, the landscape-painter, were looking at the view from Richmond terrace, Wilson was pointing out some particular part, and in order to direct his eye to it, "There," said he, "near those houses—there! where the figures are." "Though a painter," said Sir Joshua, "I was puzzled; I thought he meant statues, and was looking upon the tops of the houses, for I did not at first conceive that the men and women we plainly saw walking about were by him only thought of as figures in the landscape.

GENERAL.

Sir William Henry Wills, M.P., who some time ago offered to give 10,000*l.* towards the cost of a municipal art gallery for Bristol, has, in a new year letter to the Lord Mayor, increased his gift to practically 20,000*l.*, provided that the Corporation will spend the other 10,000*l.* required for the purpose.

Mr. W. Charles May has been awarded the Royal Humane Society's certificate for rescuing a boy from drowning at Sonning-on-Thames.

The Third Ordinary Meeting of the Liverpool Architectural Society, fifty-second session, will be held at the Law Library, 41 Castle Street, on Monday next, January 8, 1900, at 6 P.M., when a paper will be read by Herbert Bryans on "Stained-Glass."

The Art School at Bushey, which is carried on under the active supervision of Professor Hubert Herkomer, R.A., has recently amended its constitution, with the view of establishing itself on a more permanent basis, and has obtained powers to increase largely the number of its members. These amendments came into force on January 1, when the new term commenced, and are expected to lead to an accession of students to this well-known art institution.

"**English Clubs**."—We have more than once noticed "English Clubs," a list of over 2,750 clubs frequented by the English in all parts of the world. The edition for 1900 has been edited by Mr. E. C. Austen Leigh, and published by Messrs. Spottiswoode & Co. The contents are printed in tabular form, and much information about each club is furnished, such as the names of secretaries, dates of establishment, entrance fees and subscriptions, and in some cases remarks on the qualifications for membership, &c. There are included in it, of course, London and provincial clubs in England, and a special feature is made of those in the colonies, India, and on the continent, besides which over 800 golf clubs are mentioned, and several ladies' clubs. It may be mentioned as a sign of the times that the first club in the book is one for ladies and gentlemen, and the second is for ladies exclusively. At the present time it may be interesting to see that K mberley boasts of two clubs, and there is already one established at Wei-hei-Wei.

M. Bénard, architect, of Paris, to whom was awarded the prize of 10,000 dols. in the recent competition for designs for the University of California, was a recent visitor to Montreal while *en route* to California. While in the city M. Bénard visited McGill and Laval Universities and a number of the more important public buildings.

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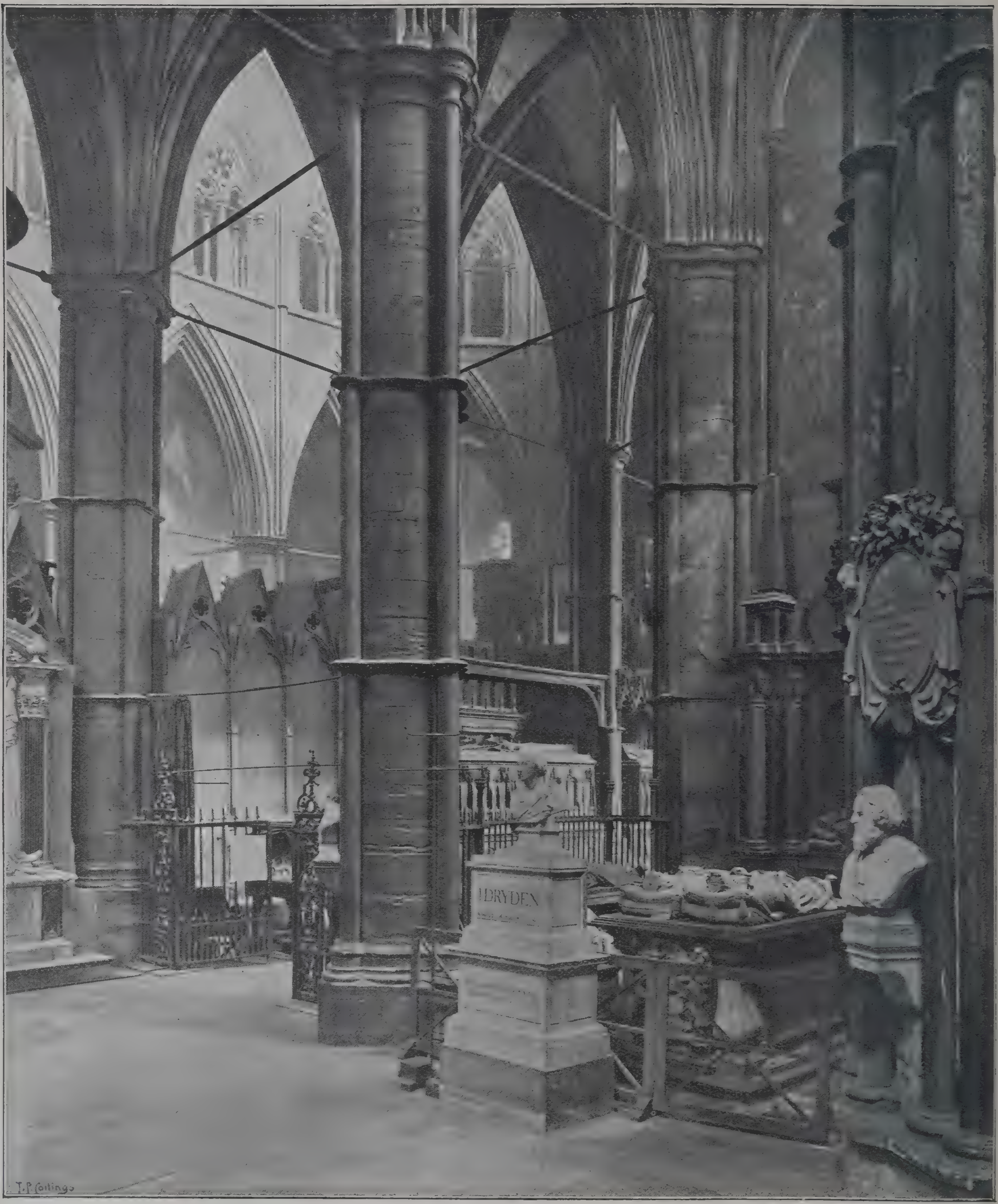

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WESTMINSTER ABBEY, No. 2.
ENTRANCE TO SOUTH AMBULATORY.

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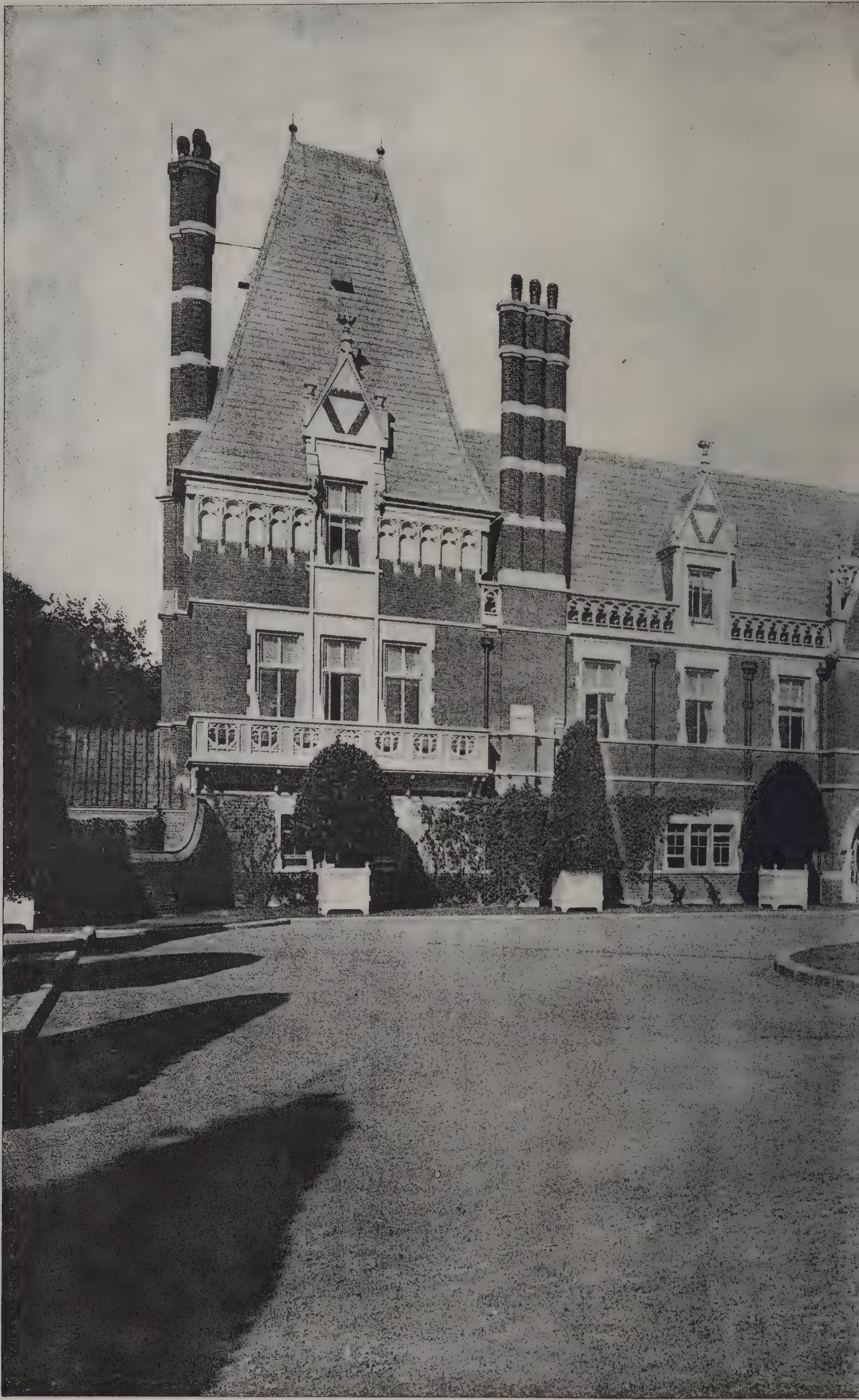

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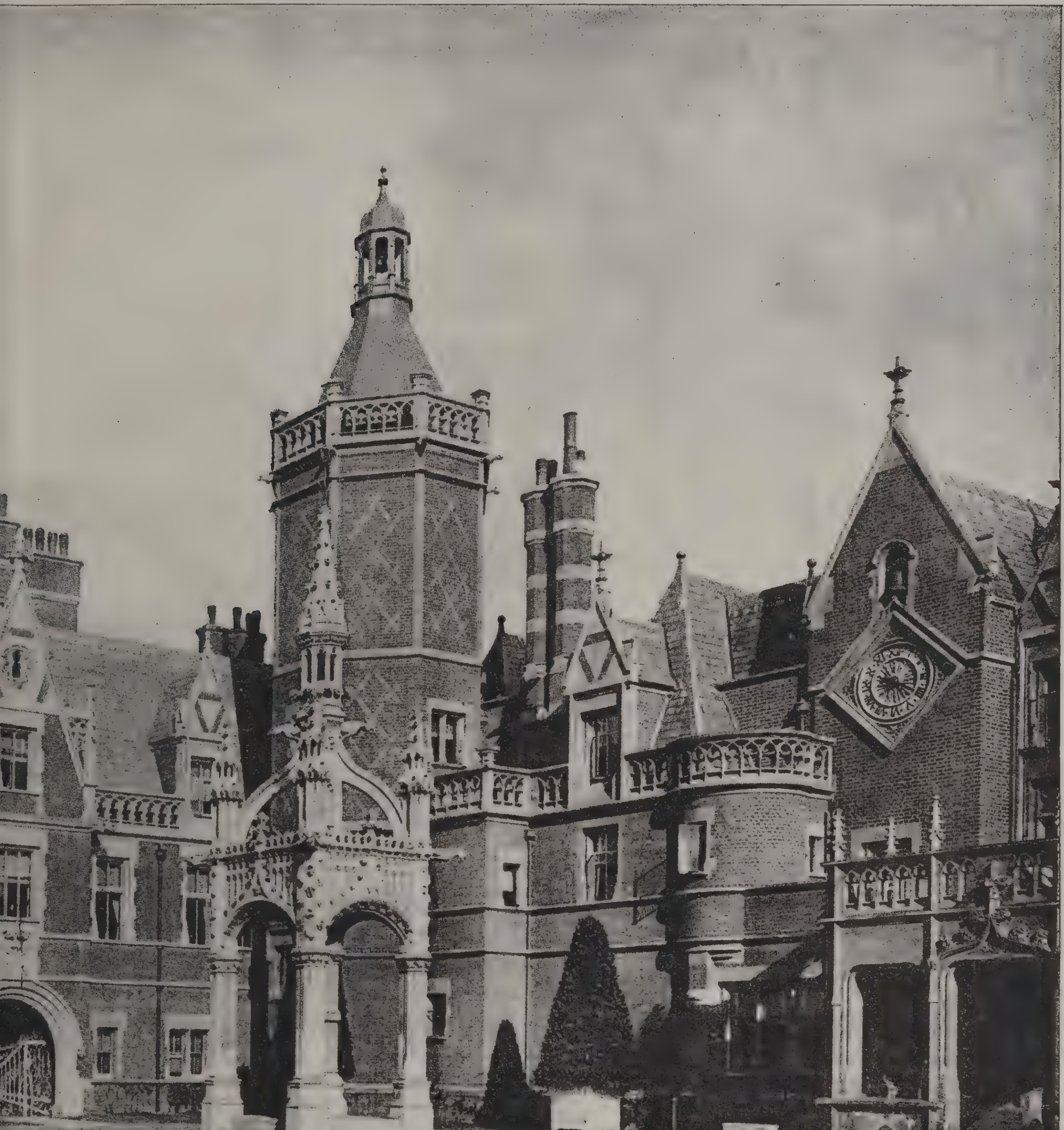
MINLEY MANOR

The late GEO. D



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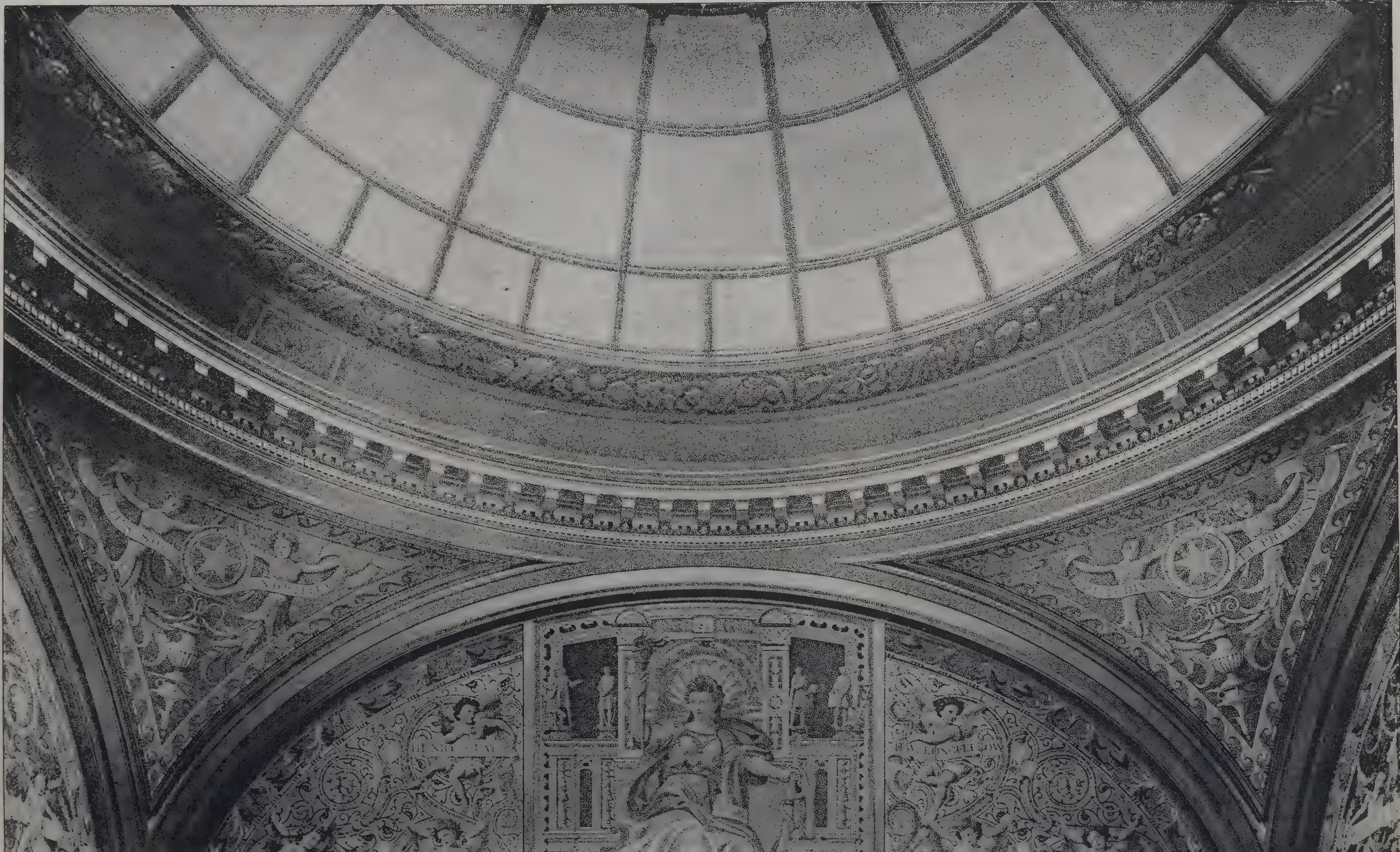

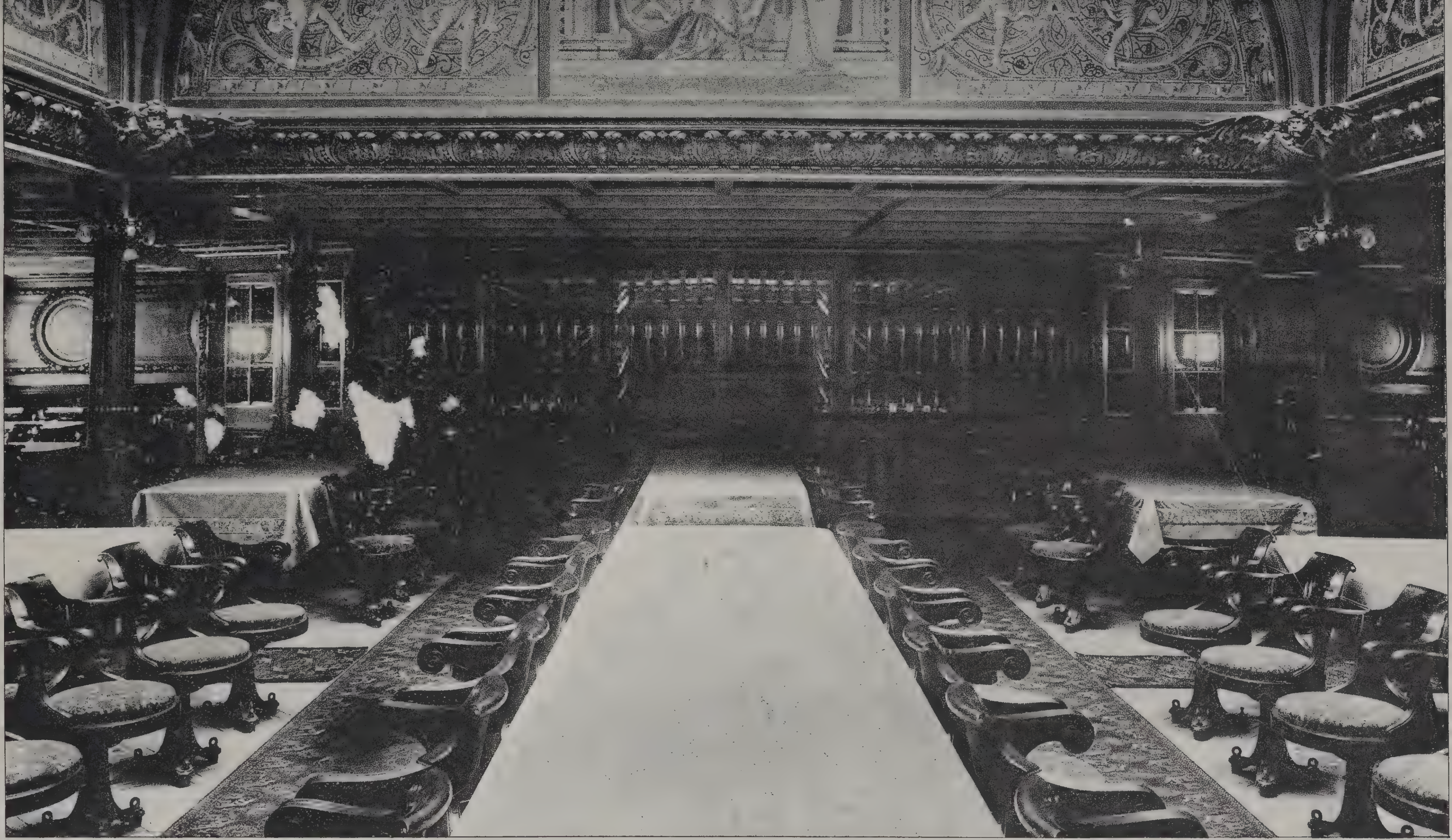

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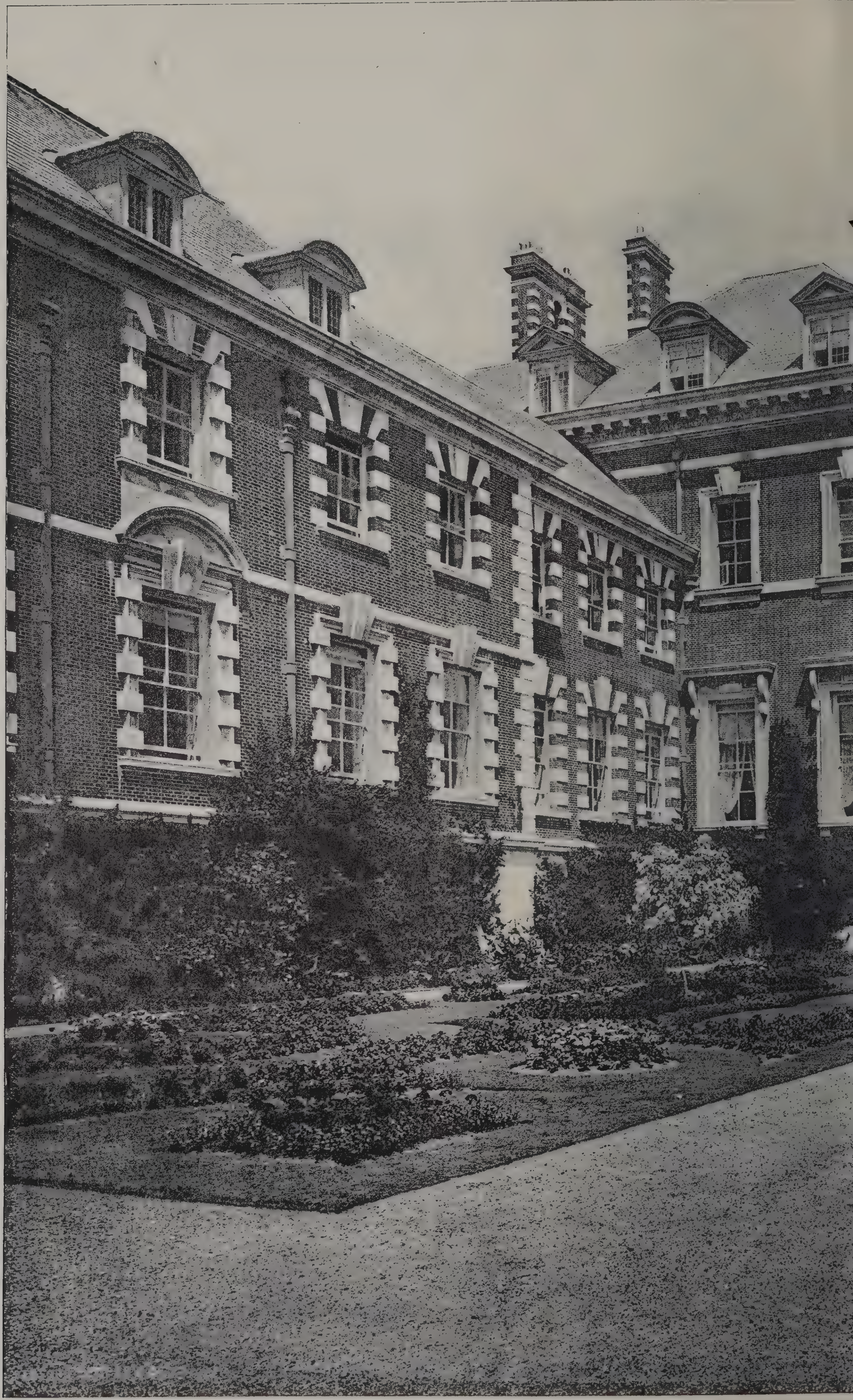
DINING SALOON: R.M.S. "OCEANIC," WHITE STAR LINE.

R. NORMAN SHAW, R.A., Architect.

UNIVERSITY of ILLINOIS.



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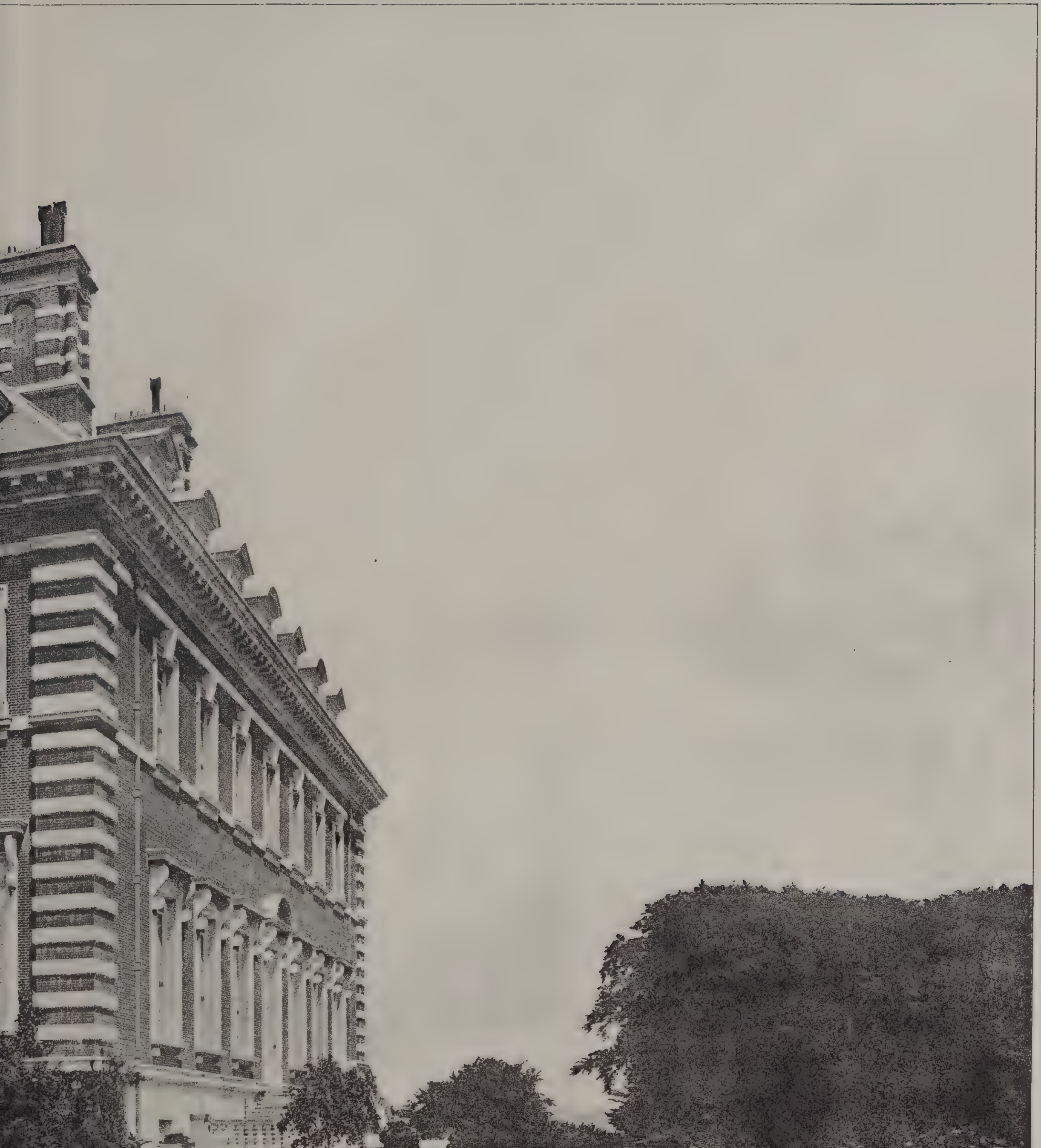

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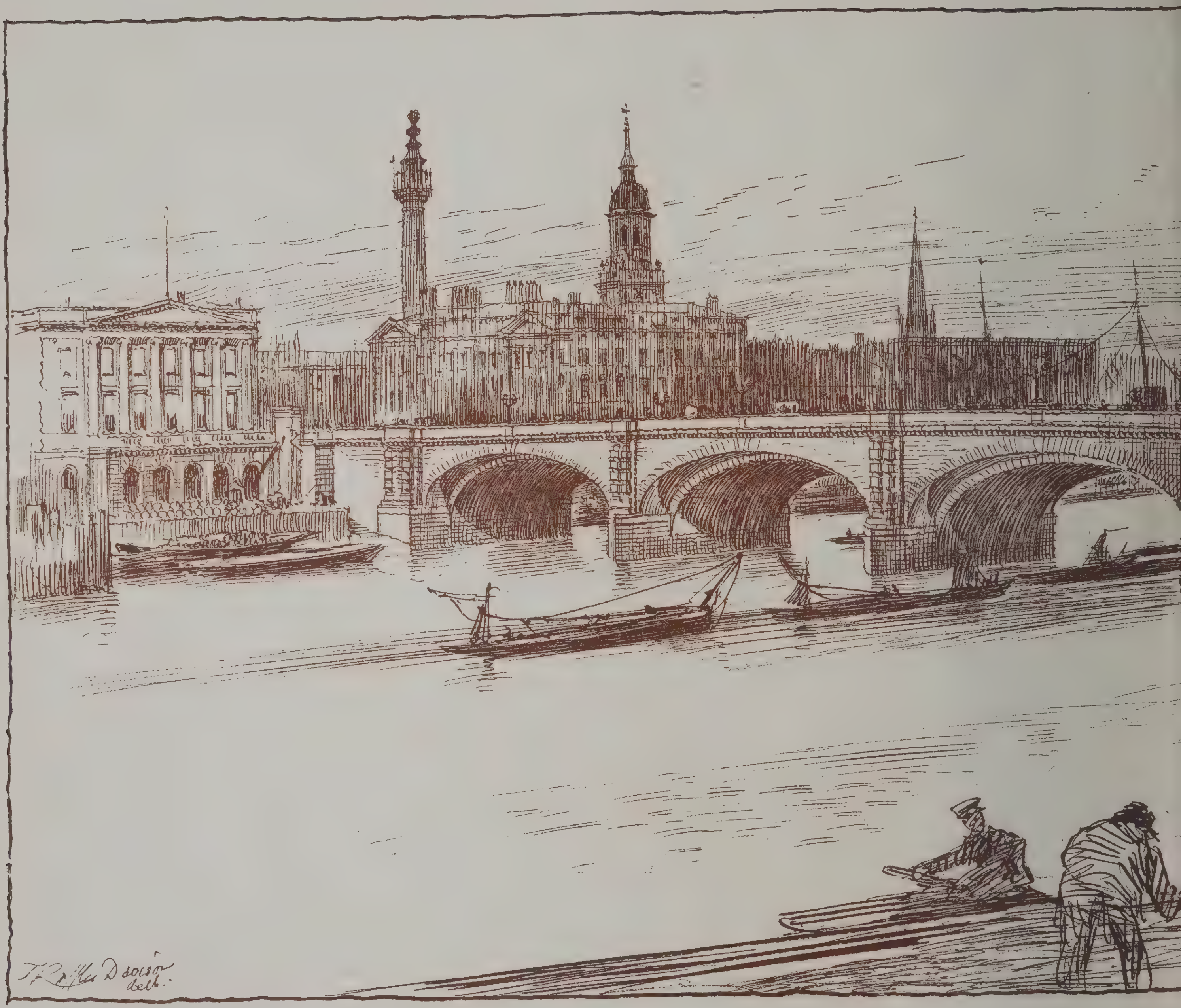
DORSET.

Architect.

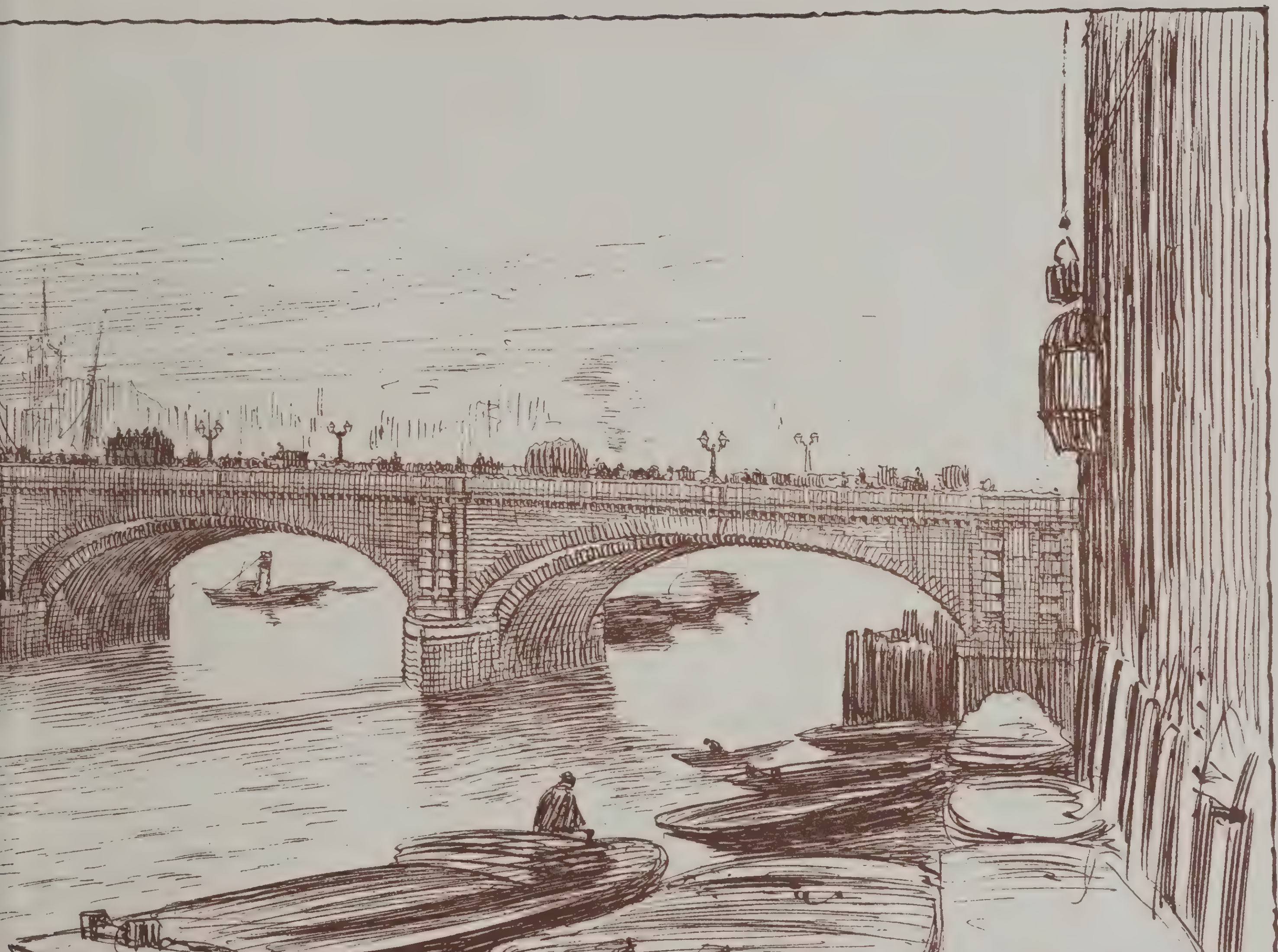
OF THE
UNIVERSITY of ILLINOIS.


T. Raffles Davison delt.

LONDON BRIDGE

A Suggestion By ERNE

Jan 5th 1900.



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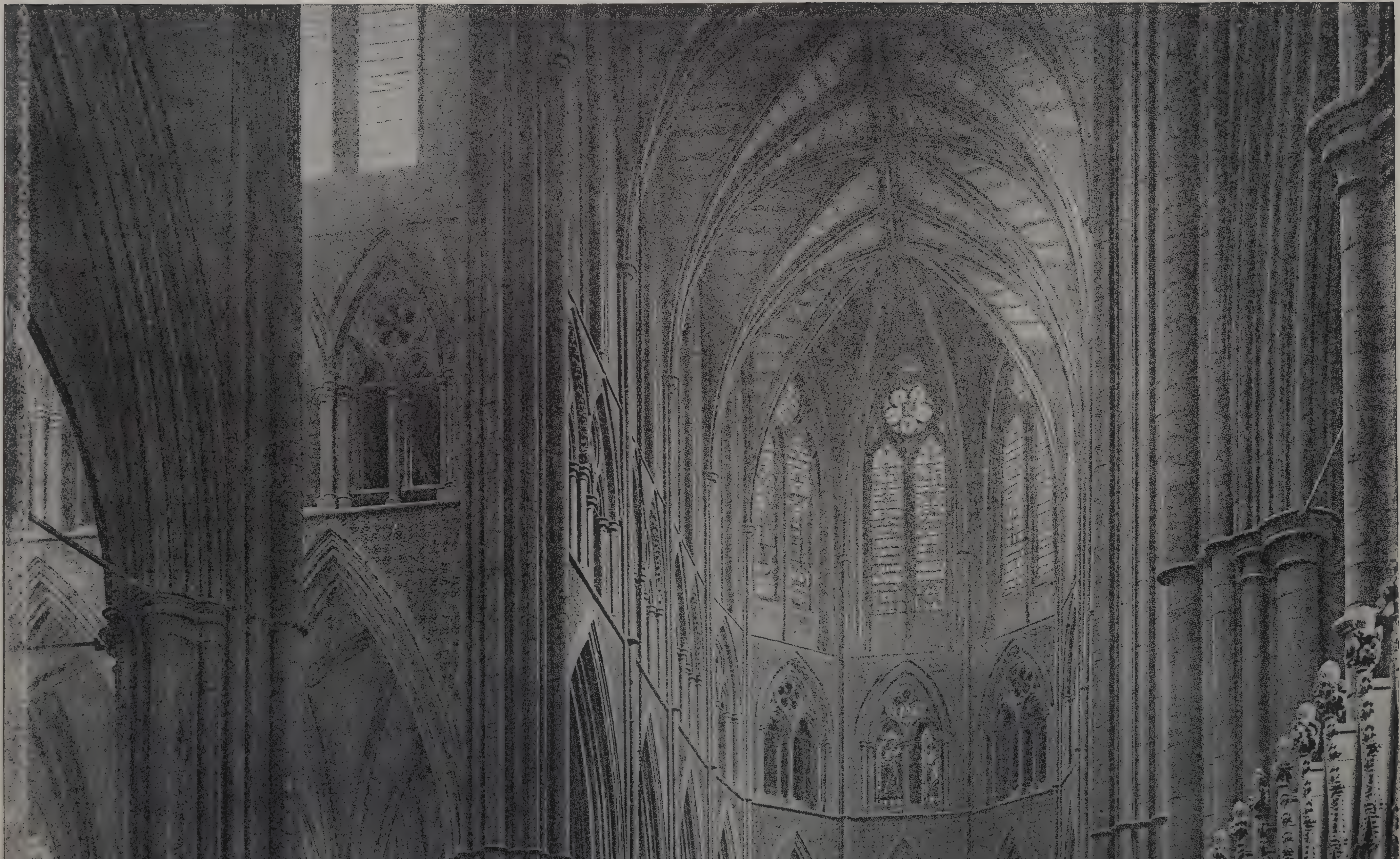
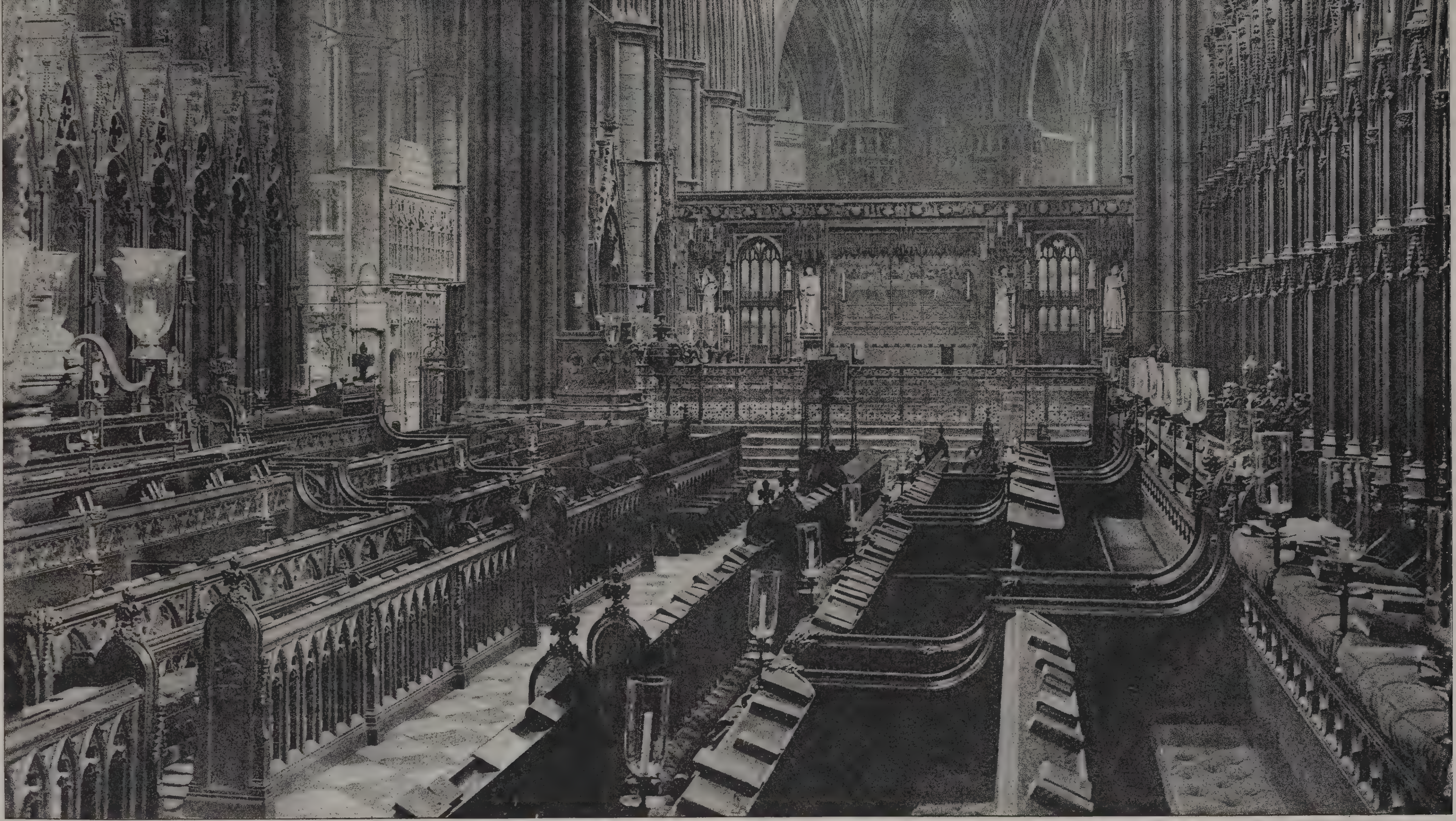
S IT MIGHT BE.

RUNTZ, Architect.





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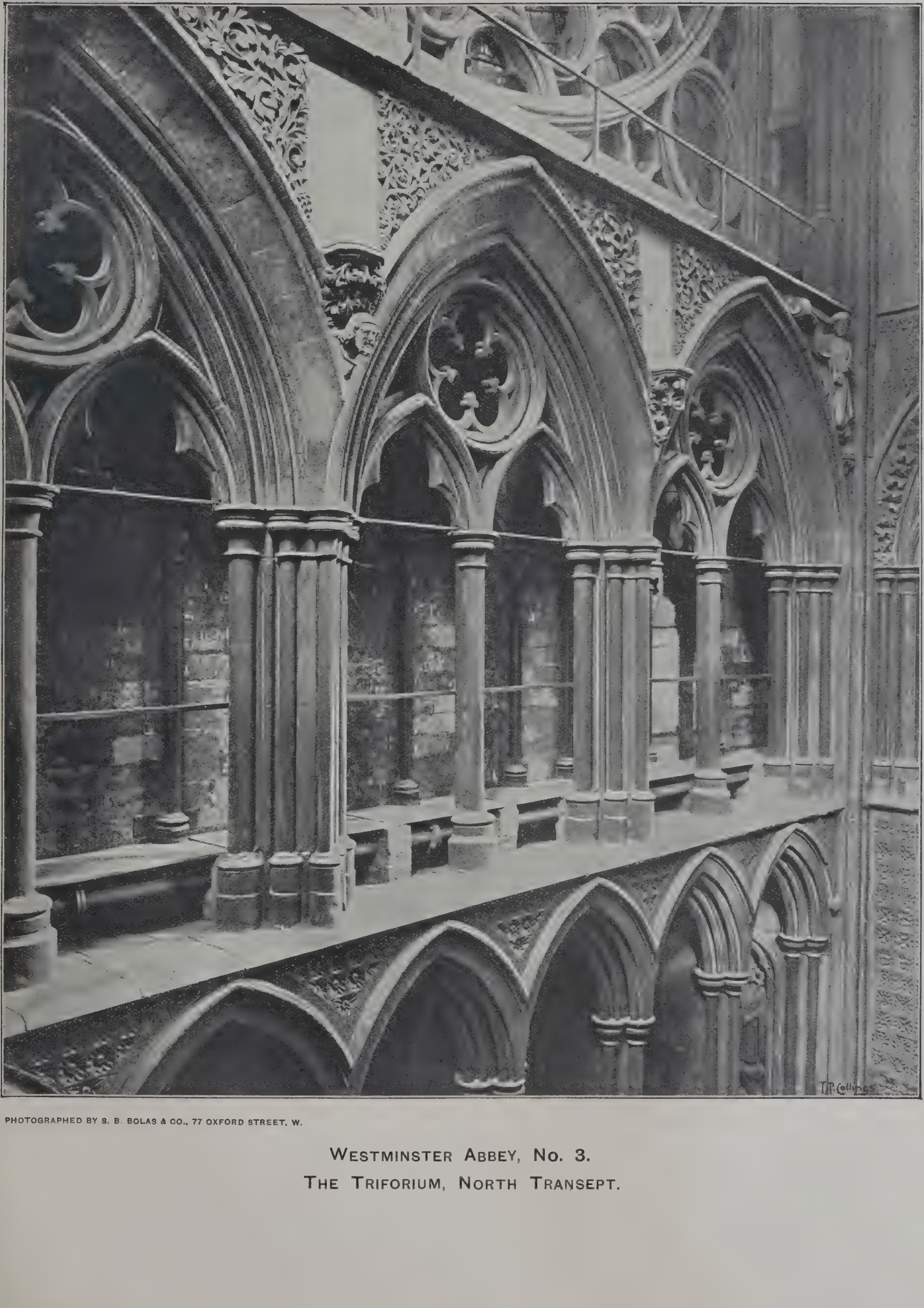
WESTMINSTER ABBEY, No 1.

CHOIR LOOKING EAST, SHOWING PART OF NORTH TRANSEPT.



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WESTMINSTER ABBEY, NO. 3.
THE TRIFORIUM, NORTH TRANSEPT.

The Architect.

THE WEEK.

THE demands on English liberality were never more numerous nor more urgent than at the present time. The relief of sufferers through the war in South Africa is so pressing a duty, in the opinion of many it supersedes all others. It is the more remarkable, therefore, that at such a time the large sum required for the restoration of Hexham Abbey is assured. Mr. THOMAS SPENCER has informed the rector that he will be responsible for the money required for building the nave, or 15,000*l.* It was intended to limit the outlay to 7,000*l.*, but with the larger amount the work can be done more worthily. Another benefactor, Mr. JAMES HALL, has agreed to erect the lady chapel and to make it a work of art worthy of the abbey. The amount to be expended on the new works, according to the vicar, will exceed 30,000*l.* All who have the interest of architecture at heart will now desire to see the works carried out in the most reverential way. Otherwise schemes in other places are likely to suffer.

M. LÉON GAUCHEZ, to whose vast knowledge of art in all forms *The Architect* has been very often indebted, has valued the Borghese Gallery. It will be remembered there was an apprehension of the sale of the pictures to amateurs who do not reside in Rome, and in order to remove all risk the Italian Government have decided to purchase all rights of the owners in the gallery. A Bill has, therefore, been lodged in the Italian Parliament authorising the expenditure of 3,600,000 lire on the acquisition of the property. Some of the paintings are so unique it is difficult, if not impossible, to agree upon a standard of value which is applicable to them. There is no second *Sacred and Profane Love* in the world which is comparable to TITIAN'S, or a rival to RAPHAEL'S *Entombment*, and the prices they would realise in the auction room would depend on the mood of the very few amateurs who would have the privilege to compete for them. It is, therefore, not surprising that the three specialists who were called in to value the gallery should differ in their figures. M. LÉON GAUCHEZ, who has for clients most of the millionaires who can expend fortunes on pictures without suffering inconvenience, calculates the pictures are worth 11,903,585 lire. Professor WILHELM BODE, the director of the Berlin galleries, who has to be sparing in outlay unless on occasions when the purchase of a picture is esteemed like a victory in the field, values the treasures at 7,294,930 lire. The Italian connoisseur, Signor PIANCASTELLI, having experience of the sacrifices which have to be gone through in Italy, considers the value to be 5,739,250 lire. If the English Government contemplated the purchase of the gallery, the Chancellor of the Exchequer would be compelled—however much against his will—to accept the estimate of M. GAUCHEZ as an anticipation of the prices to be realised, but the Italian Government, having power which we suppose it is legitimate to employ on such an occasion, declare the value of the gallery to be only 3,600,000 lire, and that sum the Borghese family must accept, although it represents less than a third of the real value of their property.

IN some English cases under the Workmen's Compensation Act it was held that as painting could not be considered as constructive work, men who met with accidents while engaged as painters should not be awarded compensation. In the Glasgow Sheriff Court, which corresponds with an English County Court, an opposite view was taken by the judge. A man who was engaged in painting steel bars at the electric station building at Port Dundas, in course of construction for the Glasgow Corporation, fell from a scaffolding about 50 feet in height and was killed. The widow claimed compensation from the contractors for the painter's work. Sheriff SPENS awarded 235*l* compensation. His lordship said that the question was whether painting fell under the employments covered by the Act—a question of fact, not of law. The work in which deceased was engaged was constructive, and in no sense decorative work. The paint deceased was putting on the steel was to prevent the moisture of the atmosphere from affecting the bars, and it was more necessary in the case of steel than in the case of iron. The defendants, in his opinion, were "undertakers" in the sense of the Act, being persons engaged in undertaking construction, repairs or demolition, and he therefore gave judgment against them. According to an old saying, paint costs nothing, for by preserving materials the outlay on painter's work is recouped. Decorative painting cannot be considered as an exception. If, then, a painter is protected when painting steel, why should he lose that privilege if he falls while stencilling simple ornament on steel or in whitening a ceiling? But we suppose it is impossible to have consistent judgments in Scotland or in England.

AMONG the French architects of our time there was not one who was more kindly disposed towards English work than PAUL SEDILLE. It is, therefore, with much regret we announce that he has passed from life at his house in the Boulevard Malesherbes in his sixty-third year. It was impossible to be in M. SEDILLE'S company for a short time without feeling exhilaration from his joyous spirits. About his ability all were agreed, and clients were glad to make use of his services. He appeared to be recognised as the successor of CHARLES GARNIER. Although not so much of the "gamin de Paris" as his friend, he was a companion whose society all artists could enjoy, and he was eager to employ as many arts as possible in his buildings. He was an enthusiast for colour, and the "Printemps" suggests his skill in that respect, as well as his courage in not concealing his employment of metallic construction. In the Exhibition of 1889 he was entrusted with designing the building for the liberal arts. Among his numerous works is the church at Domrémy, which is a memorial of JOAN OF ARC. Some years ago he wrote interesting essays on English architecture in the *Gazette des Beaux-Arts*, and in reply to some criticism of those shortcomings which were inevitable in the work of a stranger, he sent us a good-humoured remonstrance on our severity. He held a prominent place among French architects, and was always ready to defend the interests of his profession. From a man with so much vitality much remarkable work was to be anticipated, but death has put an end to his own and his friends' hopes.

A DECISION which was given recently in the Stafford County Court by Judge MULHOLLAND, Q.C., will be likely to draw attention to the uncertainty which now prevails about the responsibility for accidents on public roads. According to the evidence given, a brewer's horse was injured while passing down a roadway from a canal bridge at Tixhall, and the owners claimed 19*l.* 12*s.* damages, not from the local authorities, but from the Staffordshire and Worcestershire Canal Company. The road must have been long neglected, for the approach being honeycombed with rabbit-burrows collapsed, and the horse was thrown down. The canal company repudiated the demand, and claimed that by statute they were required to keep all gates, stiles, bridges and other conveniences in repair, but there was no mention of the word "approach." The judge held that the approaches were parts of the bridge, and that the canal company were liable to maintain them in proper condition, but considered that no action could lie against the defendants except by indictment, although the canal company were guilty of a breach of duty in neglecting to repair the approaches. Notice was given of appeal, and we hope the case will be followed out in the higher Courts. The decision undoubtedly differs from the common-sense point of view of a company's liabilities. As a general rule, railway companies and canal companies do not make new roads. They are often compelled to carry roads over canals or railways, and to do so a long diversion may occasionally be necessary. But they simply substitute, in the majority of cases, an improved road for that which formerly existed. The bridges being the property of the companies, they are bound to maintain them in a safe condition. But the new roadway is handed over to the local authorities, who are expected to deal with it as with the roadway it supplanted. With parish and urban councils there is now a more microscopic examination of outlay, and efforts are made to shirk the expense of repairs, but there can be little doubt what was intended by the Legislature was that roads should be preserved at public expense, and the bridges should be kept in repair by the companies.

WESTMINSTER ABBEY.—II.*

FOREIGNERS who visit England at the present time are much surprised when they perceive Englishmen following their ordinary business with as much energy and concentration as if there were no distant war to occupy their thoughts. The student of the history of Westminster Abbey must have a similar surprise whenever he considers the events which were in progress during the rebuilding of the structure. The reign of HENRY III. was not the most glorious in English history, but it was one which was exceedingly diversified, and when judged from a distance a more inopportune time could hardly be found to erect so glorious a building as the Abbey. HENRY III. was a child of ten when he succeeded to the throne. The enemies of England at home and abroad were not slow to take advantage of the opportunity when the sceptre was wielded by so weak an arm. There was a French invasion, there were contests between barons who wished to have control of the king, there were struggles in Scotland and Wales, there were wars in France, there was discontent among the clergy owing to papal demands for money, of which the king approved; and for many years England was undoubtedly in a state of civil war. But amidst all the troubles the works in connection with the Abbey continued from 1245 to 1269, and when—which was a departure from the usual practice—the Abbey was selected to be the burial-place of the king, it was sufficiently complete to receive his body, which was deposited in the tomb that had formerly contained the bones of EDWARD THE CONFESSOR before they had been removed to the golden shrine.

The question will be asked, Where did the money for so splendid a work come from? HENRY lavished large sums on favourites, and during the whole of his reign he was heavily in debt. On several occasions it is recorded he was compelled to retrench the expenses of his household, and not long before his death he appointed commissioners to regulate his expenses; the money he reserved for himself was no more than 120*l.* a year. The demands for foreign wars were burdensome, and as well as can be made out the people were over-taxed. Indeed, it was owing to the extent of the levies that SIMON DE MONTFORT organised the appointment of deputies who were to control the financial affairs of the country and to prevent the misapplication of the revenue, thus creating the financial power of the House of Commons. At such a time it would appear to be difficult to obtain the funds for building a great abbey. It is supposed, however, that the Jews were compelled to contribute most liberally, and the rich citizens of London were also obliged to present gifts on several occasions. A fair was instituted in Tothill Fields as a means of raising the money, and for a time at least all the other fairs about London were declared to be illegal, in order that it might have a monopoly. Fines and royalties of various kinds were appropriated to the building fund. We may likewise assume that nobles who were generous in giving money could reckon on the display of their escutcheons in the spandrels of the arching for all time. In 1261, the total expenditure reached the large sum of 29,600*l.*, which would represent nearly twenty times that amount in modern currency. There is no sign in the work of HENRY III. that the builders were ever hampered for want of money. The carving suggests the quality of the sculptors employed. The works occupied about a quarter of a century.

Here it may be remarked that the finances of the Abbey were always rather precarious. From its anomalous position as an institution attached to the palace and a chapel royal for the use of the Court, it did not enjoy the support which pious people were apt to furnish to clerics. The kings were obliged to meet so many demands on their liberality, they were apt to neglect the claims of the Abbey. Accordingly we learn from time to time about reparations which, however urgent, could not be executed owing to the poverty of the authorities. In the fifteenth century there was so much difficulty in finding money to keep the buildings standing, King EDWARD IV. was compelled to implore assistance from the Pope. The appeal is one of the most extraordinary begging letters ever penned, but it is valuable as a revelation of the financial condition of an establishment on which gold was supposed to be showered from the royal treasury. The king writes in 1478:—"We pray you that the Apostolic See should condescend to succour the monastery, which is now not only tottering, but almost fallen, and which is on the point of utter ruin. A part of that monastery, indeed, our ancestors built, and that portion is even now almost wasted by age; but the greater part they left unfinished, and of this up to the present time the poverty of the monastery has prevented the completion, partly through the expense of the confirmation of the newly-elected abbots, and partly through the badness of the seasons and the floods, which have ruined the greater part of the estates of the monastery." After reading such a description, it is fortunate the Abbey survived amidst so much neglect, and remains in the state which we now see.

There is no written record to explain the order in which the work was taken up. EDWARD'S church was hallowed by too many associations to be demolished with expedition, and, besides, the building was sound enough to be used for services. It is, therefore, likely that the new works were carried on as long as possible without removing the earlier building. Mr. MICKLETHWAITE says:—

> The end of the north transept would be the natural place to begin, because it stood quite free and clear of the old work. The west side of the transept could be gone on with at the same time, and the east side would only interfere with a few chapels, the loss of which would not seriously inconvenience the monks using the church. A good deal of the work about the chapels round the east end could also be done, and it probably was. But the south transept could not be begun till the old chapter-house and part of the cloister were pulled down, and that would disturb the ordinary life of the monks even more than the moving of the choir to the nave, which must have been done when the time came for pulling down the east end of the church. Both, we may be sure, would be put off as long as possible.

We are informed by STOW that HENRY'S first work at the Abbey was the erection of a lady chapel, which is supposed to have marked the end of the site where the chapel of HENRY VII. now stands. There is reason to believe STOW was right. Unfortunately he is not as precise as is desirable in describing the subsequent works of the king. His history of the Abbey is, however, interesting enough to be reprinted:—

> King Henry III., in the year of Christ 1220, and in the fifth of his reign, began the new work of our Lady's chapel, whereof he laid the first stone in the foundation; and in the year 1245 the walls and steeple of the old church (built by King Edward) were taken down, and enlarging the same church caused them to be made more comely, for the furtherance whereof, in the year 1246, the same king (devising how to extort money from the citizens of London towards the charges) appointed a mart to be kept at Westminster, the same to last fifteen days, and in the mean space all trade of merchandise to cease in the city, which thing the citizens were fain to redeem with two thousand pounds of silver. The work of this church, with the houses of office, was finished to the end of the choir in the year 1285, the fourteenth of Edward I.; all which labour of sixty-six years was in the year 1299 defaced by a fire kindled in the lesser hall of the king's palace at Westminster; the same, with many other houses adjoining and with the queen's chamber, were all consumed; the flame thereof also (being driven with the wind) fired the monastery, which was also with the palace consumed. Then was this monastery again repaired by the abbots of that church, King Edward I. and his successors putting to their helping hands. Edward II. appropriated unto this church the patronages of the churches of Kelveden and Sawbridgeworth in Essex, in the diocese of London. Simon Langham, abbot (having been a great builder there in the year 1362), gave forty pounds to the building of the body of the church; but (amongst others) Abbot Islip was in his time a great builder there, as may appear in the stone-work and glass windows of the church; since whose decease that work had stayed as he left it, unperfected, the church and steeple being all of one height. King Henry VII., about the year of Christ 1502, caused the chapel of our Lady, built by Henry III., with a tavern also, called the "White Rose," near adjoining, to be taken down; in which plot of ground, on January 24, the first stone of the new chapel was laid by the hands of Abbot Islip; Sir Reginald Bray, Knight of the Garter; Doctor Barnes, master of the Rolls; Doctor Wall, chaplain to the king; Master Hugh Aldham, chaplain to the Countess of Derby and Richmond (the king's mother); Sir Edward Stanhope, knight, and divers others; upon the which stone was engraven the same day and year, &c. The charges in building this chapel amounted to the sum of fourteen thousand pounds. The

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* See Illustrations.

stone for this work (as I have been informed) was brought from Huddlestone Quarry in Yorkshire.

A question which arises at the commencement of any inquiry into the history of the Abbey, as of other ancient buildings, is, Who was the architect? There is no satisfactory answer forthcoming. The Benedictines were not likely to be all Englishmen, and from their cosmopolitan character they would be indifferent as to the nationality of their architect so long as he produced a beautiful design. As a consequence, there are judges who maintain the design is French, while others are no less confident it is English. Mr. Fergusson for once endeavoured to get over the difficulty by a compromise. According to him, the church is "exceptional among English examples, and is certainly, in so far at least as the east end is concerned, an adaptation of a French design. The nave, however, is essentially English in plan and detail, and one of the most beautiful examples of its class to be found anywhere." Mr. Street, on the other hand, was no less confident that the whole character of the design of Westminster Abbey is English, and that the apse is unlike any French example and is distinctly original. He believed it to be the work of an architect who, after seeing what had been done by Frenchmen, wished to accomplish the same results without adopting the means they employed, and consequently his work is not only in its detail but in its plan distinctly English. On a later occasion Mr. Street was less assured about the Abbey being a fair example of a purely English church, for he said:—

> With one grand exception the whole of the great English churches of the thirteenth century were square-ended. This exception is, of course, Westminster Abbey. Here the evidence of the building itself seems to be complete that the king had resolved to build a church after the model of the great French churches, but employed an English architect to plan it, and he made his plan on lines which are distinct and different from those of any French church. Nothing is a more interesting subject for study than the adaptation of a foreign plan and design by an able Englishman devoted to his national art, but it is somewhat outside my subject. All of us are proud of our beautiful minster, we all feel it is no dry repetition or copy of another building; but, at the same time, it is impossible to regard it as being a fair example of a purely English church. Some years ago I believe that I proved to demonstration that the architect of Westminster built also and at the same time the beautiful church at Stone in Kent. The arcades round the eastern portion of both churches, the detail of much of the ornament and the character of the window tracery and of the clustered columns in the two churches are, to a large extent, identical, and where they are not absolutely so, they are so nearly alike as to make it evident that they were designed by the same hand. The proportions of both churches are similarly designed on the equilateral triangle, and the materials used are the same The interest of this smaller work is great, therefore, as showing that directly the architect of Westminster was free to do as he liked, he built as an Englishman of the strictest kind, with no evidence in any part of his work of foreign leanings, and notably with a square east end in place of his Westminster apse.

Whoever supplied the design it was respected while the principal part of the Abbey was in progress. At Westminster we can no doubt see occasional specimens of Norman work, and the later styles of Gothic are to be found in the choir, cloisters, chapter-house, the chapel of Henry VII. and in various monuments. But the second period of thirteenth-century work, whatever name we may give to it, is represented to an extent beyond all the others. There is a refinement about the design which appears more remarkable when we fail to see any intermediate experiments or stages to show the connection with Norman work. The change is most abrupt and is almost peculiar, for in most English abbeys or cathedrals it is possible to trace the development from the massive masonry of the Norman period. In Westminster there is no trace of Early Transitional work, and hence it is that the columns, arches and vaulting almost appear as if their lightness were a reaction against Norman heaviness. But as the late E. M. Barry said:—"No one who enters Westminster Abbey gives a thought to the sufficiency of the columns and arches. This he is able to take for granted, by reason of an apparent superabundance of strength; and though such an appearance may sometimes be misleading, doubts would only suggest themselves to a scientific inquirer, or one well acquainted with defects which may perchance lurk in the construction." The respect for the original design imparts a unity to the architecture of the body of the Abbey by which it becomes a rival of Salisbury Cathedral. Unfortunately, there are few standpoints which do not reveal monuments and other objects which are as inimical to unity and repose as would be restorations or additions in different styles.

In judging the Abbey as a whole, it is difficult to discriminate how much is due to architectural effect and how much to associations. But there can be no question that whether we consider the nave and choir, or the transepts, the impression left is one of admiration for the genius of the designer. The moralists who have utilised the Abbey gave way to sombre reflections, but the architecture regarded apart from the tombs is, on the contrary, of a kind to make all spectators feel that the purpose of the church was not to overcome us with melancholy, but to suggest a higher and happier state of existence. He was no pessimist who drew the plans. The details are of a character which entitle them to be accepted as models of the treatment belonging to the age in which they were produced. The piers and columns, whether large or small, in the nave or in the upper arcades, with all their lightness, have resisted time, and appear capable to sustain their office for centuries to come. The carving shows nothing to reveal the employment of wearied mechanics who were substitutes for machines. It is full of life, and yet has a simplicity which becomes more charming when we remember how large a part of the congregation must have been courtiers. It is the refinement of the work which manifests that the building was a royal chapel.

Owing to the unity which pervades so large a part of the building, the chroniclers were to be excused when they declared that the entire Abbey was reconstructed by Henry III. With all his enthusiasm the king was able to accomplish little more of what we see than the choir and transepts. According to Mr. Parker:—

> The work executed in the time of Henry III. may be distinguished on examination, although it was so well copied that at first sight the whole appears to be one piece of building, and the original design was faithfully carried out. The parts erected at this period were the choir and transepts and the chapter-house. The latter has windows of four lights divided by regular mullions with bar tracery in the head, and that is believed to be the earliest example in England of the use of this peculiar feature, which then came rapidly into fashion. An ancient Roll of the date of 1253, preserved in the Public Records Office, mentions canvas for covering the windows of the chapter-house, which shows that they were then finished and waiting for the glass The first service in the new church was in 1269, when the relics of Edward the Confessor were translated into the new shrine.

EXHIBITION OF FLEMISH AND BRITISH ART.

It is not easy to combine unity and variety in a popular exhibition, for although a plan may be formed it may not be possible to realise what was contemplated. In the winter exhibition at the New Gallery it was intended to show examples of early Flemish art and of British portrait and landscape-painting. To bring the two into connection it was considered necessary to have examples of Rubens and Vandyke, who served as intermediaries in the development. Pictures by Rubens were obtainable, but Vandyke's most characteristic works were promised to the Royal Academy. One very important link in the chain is therefore wanting, and another is in a weakened condition, for the works by Rubens which are shown do not as a whole uphold the reputation of the master, and their influence on English art cannot be traced.

The principal attraction in the New Gallery will be the collection of early Flemish paintings. But we are doubtful whether they are of the kind that will form a popular exhibition. We do not like to introduce statistics in connection with art, but a few figures will indicate the character of the exhibition as well as any lengthened description. There are ninety-eight examples in the west room, of various sizes ranging from miniatures to large altar-pieces. Out of that number there are only twenty which are portraits or secular subjects; the remainder are either Biblical or scenes derived from the "Lives of the Saints." What is, however, most remarkable is that the Biblical subjects are mainly representations of the Virgin and Child. If we are to have examples of early Flemish art, it is by that class of pictures we must be enlightened, for the artists were happiest with them. But it would be vain to deny that a great many good people in England would prefer others of a different class. The pictures may be scorned from the supposition that they served as aids to "Mariolatry," but it is none the less true that by painting them the Flemish school attained a remarkable degree of perfection. If all the pictures which are representative of the Blessed Virgin were to be eliminated, the exhibition would possess little interest.

It is always advantageous to realise what is paramount in any collection of paintings. For in that way we are enabled to realise the failures or the successes of the artists. When we know that for a long period in the Low Countries the painting of Madonnas occupied a large portion of the artists' time, we can understand that an immense number must have been produced, and while there was so much competition it was not easy to devise any novelties. Another cause which checked invention was the respect which had to be paid to traditional arrangements. That the artists have succeeded in avoiding monotony is a tribute to their ability.

One auxiliary which the artists were able to possess was found in architecture. If the figures of the Virgin and her Child resembled one another, there was, at least, variety in the setting. It is worth paying a visit to the Gallery merely for a consideration of the invention found in the architectural backgrounds and accessories. We see an example in the second work in the catalogue, *Virgin and Child Enthroned*, by Rogier van der Weyden; the panel measures 5¾ inches by 4 inches, but Meissonier never executed a more delicate work. The Madonna is seated within an open shrine of most elaborate Gothic, which is as sharp in detail as when first painted. Although in Flemish work carving is sometimes carried to excess, we doubt if the painter could have had any actual pattern to follow except one shown in a stained-glass window. In the *Adoration of the Magi*, ascribed to Mabuse, we have a remarkable combination of Gothic and Renaissance forms, as if one style were too simple to express the desired richness. In another work of Van der Weyden's a Gothic church is used instead of a shrine. In Jacob Cornelissens's triptych we see the Virgin and Child on a throne, in which embroidery of an exquisite kind is introduced at the back. Either from a desire to suggest what is represented was made up of several pieces, or from an effort to display a contrast between matte and burnished gold threads, the cloth presents a peculiar appearance which we do not remember to have before seen in pictures. Hans Memling was not satisfied with introducing a fine arch; he must enhance it with garlands of fruits and flowers which are sustained by angels. But there is no architectural work to surpass Mabuse's throne which is seen in No 61—*The Virgin and Child Enthroned*—and which belongs to the Earl of Northbrook. The marble-work forms a fitting accompaniment to the angels and the lovely flowers, some of which are offered to the Child. It does not matter what style is adopted; the painters show their appreciation of architectural details, and when they have to introduce towns or a large building they are no less careful.

It may seem unworthy to test pictures by details which are not taken from living things, but it should be remembered that consistency is a characteristic of all the best Flemish pictures, and that they are no less conscientious in the treatment of the backgrounds than they are with the principal figures. It may now be said that greater effect would have been obtained with less elaboration; but happily the Flemish painters were for a long time too unsophisticated to have discovered that fact, and their unrestricted laboriousness is one of the charms of their works. Painters would not have introduced so much careful architecture unless they and the spectators were admirers of the art. And it is pleasing in our time to come across examples which testify to the position which architecture once held in general esteem.

Although we may now speak of enthronement, and the Virgin is shown seated on thrones which princes might covet, there is nothing suggestive of the goddess in the pictures. As a rule, the Virgin was to the Early Flemish masters a woman who belonged to a humble class, but who was appointed to be a guardian to an exalted infant. Occasionally she is very young, as in Gheeraert David's work, but she is always the matron. In one case she is represented by an unknown master without a hood or drapery over the head, and the slight omission has a remarkable effect amidst so many works where tradition is followed. The artists, in the desire to suggest maternal affection, were sometimes not afraid to represent the Virgin like a poor woman performing duties which are not usually considered to be worth a painter's notice.

By Van Orley is a diptych in which the conversion of St. Paul and the triumph of St. Catherine are depicted. In another work we see St. Catherine disputing with the doctors, her right hand resting on her sword, and the frieze of the portico in which she stands is decorated with incidents of her life. The painters were not afraid of commingling past, present and future. The saint appears to have been a great favourite with Flemish artists. The *Call of St. Matthew*, by Jan van Hernessen, is remarkable for the expressive power seen in the faces. That quality is found in many other works. In Quinten Matsy's *Adoration of the Magi* the effort to be expressive made him indifferent to other qualities. The most remarkable work taken from the Old Testament is the *Adam and Eve* from Hampton Court, by Mabuse. It shows that, in spite of all prohibitions to the contrary, models were to be obtained, for without their aid so excellent a work could not have been produced. There is a *Judgment of Solomon*, by Lucas van Leyden, of no great importance, and two showing *Moses and the Bush* and *Gideon and the Fleece*, by Dierick Bouts; but the Scriptural subjects, as we have said, which were most in request among the Flemings were representations of the Virgin and Child.

The hagiological subjects must generally be looked on as mere curiosities. How many visitors can appreciate the *Piety of Raymond, Count of Toulouse*, by Mabuse, who is depicted as stripping himself in a church in order to proceed to the Holy Land as a pilgrim? The bishop has to wipe away a tear and another ecclesiastical dignitary is no less affected. There is an immense reliquary in the middle of the room, the exterior of which is painted with incidents from the lives of St. Nicholas of Myra, and St. Anthony of Padua. They will appear most strange to the uninitiated. The largest work in the room is a triptych, which is described as *St. Anne with the Virgin and Child, and St. Bernard and St. Anthony of Padua*. St. Bernard, although the greatest ecclesiastic of his age, was not a bishop, and abbots did not wear mitres in the twelfth century. The figures on the wings correspond with those on the reliquary, and are St. Nicholas of Myra, and St Anthony. Another strange work is described as *SS Cecilia, Margaret, Agatha and Dorothy*. They are all seated together in an enclosure as if enjoying themselves, and suggest a new influence by which pictures for churches were deprived of their austerity.

A small *Hercules and Omphale* was formerly attributed to Mabuse, and is interesting as the representation of a classic legend in 1517. There is as much distinction between the figures as we could find in the work of a modern student in the Ecole des Beaux-Arts. The character of the weapons of the sixteenth century is suggested by the immense spikes which are inserted in the hero's club. Among the portraits is one of Charles V., by Bernard van Orley. The emperor is mounted on a white charger, and holds an arrow in his right hand. He wears fine armour, and his helmet is plumed, but there is not the fateful look on his face which is found in Titian's picture. There are two portraits of Mary, the daughter of our Henry VII., who was married, first to Louis XI., and subsequently to the Duke of Suffolk. She is far prettier than the Flemish type of women. Another remarkable woman is Margaret of York, the wife of Charles the Bold, which suggests that she is no less worthy of the epithet; it is by Hugo van der Goes. There is little of the cleric in Patrick Adamson, archbishop of St. Andrews, by Sir Antonio More. He wears a black doublet and a white ruff. There is an anonymous portrait of Anne of Cleves, who is very richly clad; but as Henry VIII. was deceived by one of her portraits it is possible the present one may be no less imaginative.

There is a wide difference between the painters we have mentioned and Sir Peter Paul Rubens, who is represented by about forty paintings in the north room. The earlier artists are miniaturists if compared with his powerful, but rather slap-dash manner. If the *Adam and Eve* by Mabuse could be placed beside the blowsy nudities, also from Hampton Court, called *Diana and her Nymphs reposing after the Chase*, the change in the manner of painting would be apparent. Rubens, however, has in this country a popularity which is never likely to be obtained by Mabuse or any member of the earlier schools, and we must accept his works with all their shortcomings. The most interesting examples of the collection are the six sketches illustrative of the life of Achilles. From the formal adoption of termini to each composition it is evident the sketches were intended to serve for reproductions of some kind. It is needless to say the execution is facile, and there is a grace about the figures which is often absent from his larger work. Another most interesting sketch is for the large picture in the Florence Gallery, the *Triumphal Entry of Henry IV. after the Battle of Ivry*. There is also a version of the family of Rubens. A portrait of the artist's brother Philip is admirable, and is in excellent condition. The *Rainbow* is in a faded condition, and its original appearance can only be guessed. There is a large study of great merit for the *Abraham and Melchizedek*. The Glasgow Corporation have lent the *Wild Boar Hunt*. Some connoisseurs will consider the *Daniel amidst many Lions* the most important work in the room. Rubens said it was taken from life, and the whole of it was by his hand. Sir Dudley Carleton obtained possession of it and presented it to Charles I. in a "black gilded frame." It shows the artist's skill in the painting of wild beasts, and is a picture which should be in the National Gallery.

About thirty portraits and landscapes are the work of English artists. By Gainsborough is a half-length of General Wolfe, the hero of Quebec, which corresponds in its quietness and simplicity with the character of the Commander which is given in "The Virginians." The same artist's Madame Bacelli, the dancer, continues to be as bright as ever, although it has been several times in exhibitions. There are also portraits by Gainsborough of the Countess Waldegrave, Mrs. Rebecca Minet and Daniel Minet, a gentleman who is a typical specimen of the eighteenth-century beau. Reynolds's portrait of Edmund Burke is less suggestive of the politician than the portrait usually selected for engraving. *Mrs. N sbitt as Circe*, by Reynolds, is much admired, but it was hardly complimentary to the lady or her admirer to make her assume such a character. Romney's few pictures include a *Lady Hamilton*. In this case, as at other times, he painted her in a white dress. The face looks as if the painter was struck by the regularity of the curves in the features, and imparted to them a little of antique severity, and the portrait is consequently less vivid than others of the same lady. Richard Cosway's *Portrait of a Lady* shows a large and decisive head, but the body is so slight one wonders where the support came from. Constable's *Coast Scene* would pass for a work by William Collins, and his landscape consists of hills with water in the foreground. The lower part does not recall his usual style, but the clouds are as aqueous as those which compelled Fuseli to take his umbrella with him when he went to look at a similar picture. Turner's *Walton Bridges* has lost its brilliancy, and his *Newark Abbey* must have been painted when he was in a misanthropic mood.

THE INFLUENCE OF THE FRENCH SCHOOL ON AMERICAN ARCHITECTURE.*

When a Consistory of the Roman Catholic Church decides on the canonisation of some holy man, before his formal sainthood is proclaimed, one is appointed to attack the pious memory of the subject for sainthood. This is the Advocatus Diaboli. When I was asked to prepare a paper on "The Influence of the French School on American Architecture" I was reminded of the ancient Roman practice. Am I then the devil's advocate? Am I to assail the prospective saint with scorn and accusation? That would be an ungracious task, for undoubtedly the canonisation will take place, however the devil's advocate may protest. There seems no alternative, however; I must do my duty; I must find fault, pick flaws, offer protests; and the best way to do that is to begin with praise.

Even before indulging in this crafty procedure, however, let me enter a caveat. I cannot admit that we are considering a matter of absolutely revolutionary importance—the coming of the architectural revelation to a hungry and waiting world. We have had several new dispensations before; even I remember three of them very distinctly. There was the Queen Anne affair, and a few years later the episode of Romanesque, and still later the Colonial excitement. Each was hailed with an enthusiasm that rivalled that which acclaims the advent of the Parisian Renaissance. Each passed, and the drawing-boards that once knew them now know them no more. Is this to be the fate of the latest fashion that we have imported with our champagne and Easter millinery? Even the devil's advocate cannot claim that. There was much good accrued to us from each of the three architectural events of the post-centennial. The Queen Anne craze served the part of the swallow of salt water in the case of sea-sickness—it prepared the system. Romanesque gave us some idea of what vigour and power and honesty meant in our work. Colonial suggested to us the value of historical association—of ethnical continuity. And the Parisian Renaissance? I honestly think it will do more good than any of the others.

But is it the last word in our architectural development? Is it the revelation of all truth, of the final and perfect style? I have seen the rise and fall of Queen Anne, of Romanesque, of Colonial; I have lost my illusions; I hold it only an episode.

Yet it is an episode that has only begun—let us grant that. Thus far it has done much good and more harm; when its work is finished the good will have outweighed the evil. In time we shall come to discriminate between what is permanent and what is evanescent in the movement. At present we take both, we do not regard the thing judicially; we accept all that is offered and on its own valuation. For my own part I believe that we can cut the whole thing in halves, and that we shall do so. On the one side we shall put the underlying principles of modern classicism—these are the lasting qualities; on the other side we shall put the style itself—this is the accident, the matter without vitality or moment. In a word, the motive is good, the style bad.

The advantage that thus far has accrued to us, and it is very great, is the sense of fundamental law of a certain self-restraint, of the subordination of personality in radical things to something that is larger than the individual. With us architecture for a quarter of a century has been another name for æsthetic anarchy. Every man for himself and the client take the hindermost. We have planned in the happy-go-lucky fashion that prevails in England, and with almost as unhappy results. We have had as little idea of the sanctity of style as the German designers of churches. Our architectural education has been primary, not even rudimentary. Now a reform has begun and, like all reforms, it has overshot the mark. It tends to curb our frontier originality, to make us something but self-satisfied units, but in the flush of its popularity it tries to force the style with which it is associated, purely by accident, as the one and only style that righteous men can employ.

This is the phase of the new régime that I must protest against, not the big principles of planning, composition and design, not even the methods of teaching these, but the narrow enthusiasm that confuses a cheap and facile style with principles that are really fundamental. If the advocates of the new school would only take their stand on the really unassailable principles that drive them, instead of on the casual style that happens to be associated with them for the moment, there could be no chance for a quarrel.

Only too often they do not do this, as is proved by the fact that the public believes that the style of the Parisian boulevards is the end and aim of the whole movement. I hope I am more just than to believe this. One position is impregnable, the other I conceive to be indefensible.

It is unfortunate, in a way, that this most salutary movement should be linked with a style so limited, and so, shall I say superficial? Still, it is hard to see how else it could have come except in this company. France is the only European country where there is a logical system of training, and France has preserved the style of the Renaissance with more vitality than it has been elsewhere. In England, Germany, America, it was quite dead, though unfortunately unburied. The new scholasticism has made it thoroughly living in France, and already it has been galvanised into life in this country. But was it really worth this? Living it is, but is not it the fictitious vitality of a style that has steadily degenerated since the sixteenth century?

M. Taine once said, "There are but two orders of architecture—Greek and Gothic: all else is imitation." And certainly no one claims that the developments of the Classic style from the days of the Parthenon down to those of M. Garnier's Opera House have added anything of essential value to the primal type; it has been imitation and—degradation, so far as the great principles of building are concerned.

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* A paper by Mr. Ralph Adams Cram, of Boston, read at the Thirty-third Annual Convention of the American Institute of Architects at Pittsburgh, and published in the *American Architect*.

By "degradation" I do not necessarily imply a reproach to the style; indeed, the word is a measure of praise, for it shows that architecture has performed its just function and has adapted itself delicately to the changing conditions of civilisation. The Parthenon would be grotesque in Paris; the Opera is admirable. Architecture is good if it expresses the time and the people and the spirit that made it possible; it is bad if it is an affectation. Really I suppose we have less concern with the relative perfection of the style itself than we have with its fitness. The Parisian Renaissance of the boulevards is better architecture than would be the Doric of Greece were it restored on the Champs-Elysées, or the Gothic of Isle de France on the Rue de Rivoli; and yet, in the abstract, as they will appear in the architectural histories of a century hence, the Greek and the Gothic are good, the Renaissance bad.

So, after all, it is worse than useless to dispute as to whether Parisian Renaissance is really a good style or a bad—for France. It is inevitable; it expresses the time and the people and the thing they are pleased to call civilisation, therefore it is a thousand times more respectable than the archæological Gothic of the thirteenth century pasted over the outside of English law-courts or the barbaric solemnities of the Auvergne when they try to express nineteenth-century Protestantism.

Let us grant this; let us confess that architecture in France is living, and that the style is just as appropriate to the time as was Doric to that of Pericles. What then? Is there any reason why we should seize upon it and force it on our own civilisation? Are we a province of France, are we in harmony with her ideals and her methods, are we French by instinct and sympathy? If not, wherein is the cult of the Ecole any less affected than we who borrow a style for church building from another land? Are they not dealing with an alien style? Are they not trying to express Anglo-Saxon ideas through the medium of a Gallic language? Or have we something in this country, some phase of life, some method of thought, that demands the architectural language of republican France for its fullest expression? Yes, we have, and that very fact justifies Parisian Renaissance—just so far, but not an inch further.

Here is where I humbly conceive the Society of Beaux-Arts Architects makes its fatal mistake. Impressed by the force of the solid principles that must underlie any living style, charmed by the facility of the very plausible style itself, aware of the similarity between certain phases of American life and that which is rampant in France, it leaps to the conclusion that what fits one case must fit all, and that the golden days of the past, when one style expressed all life, may be restored.

I have already referred to the great principles of design that underlie modern architecture in France; it is unnecessary to specify them or to urge their acceptance. We all admit them. By this I do not mean that we admit all the methods used in France to inculcate them; but that is another story, and one not to be touched on here. The principles themselves we are all anxious to adopt; they are exactly as operative in the planning of a Gothic cathedral as they are in the laying out of a scheme of a palace for the President of the French Republic. These principles are independent of style. But the style itself? Here is the ground of contest. Why in heaven's name should we take it if we do not want it and if it does not fit our case? It is not particularly beautiful, and it is thoroughly French; besides, it is about as narrow and as limited as any. There are certain things it cannot express, certain places where it would be an egregious offence, just as fifteenth-century Gothic would be an offence in a fire-engine house or a Turkish bath.

We read history and we realise that always in the past one style has been enough for any given time and people, and recognising the implied reproach on our own epoch, when this condition does not seem to hold, we hunger for some one style which shall be for us the one inevitable thing. This I believe to be absolutely, though not necessarily for ever, impossible. Architecture, if it is real, must be accurately expressive of the impulses that create it. Well, we have now not one impulse but a hundred. Once life was a thing of unity; church and state, industry and commerce, society and recreation, were united in a whole that seemed insoluble. This condition exists no longer. Life is coming to be as various almost as the units that compose society; there is no longer unity or identity; we range from Christian science and Tammany Hall to Browning societies and the Meadowbrook Hunt and Trappist monasteries. Can we conceive of an architectural style that should express all these things? Certainly not; any attempt to evolve or import one is vain; any style that tries to perform this function is affected, and in the end ridiculous. I do not apply this criticism to the latest fashion alone; it is quite as valid in the case of Gothic or Romanesque or Colonial or any other style of history. When society was a unit art was instinctive; it was the language of a people—not, as now, the thousand dialects of antagonistic cliques. Whoever tries to establish a universal style, or delude himself into the belief that such can be achieved, looks at architecture as a thing, not as a condition. Self-conscious we must be; it is our destiny, the penalty we pay for the peculiar kind of civilisation that pleases us for the moment. We are utterly unable to create art instinctively, and the sooner we recognise this the better for art and ourselves.

Just here lies, I firmly believe, the vital error of the advocates of Parisian Renaissance. They try to force an alien style on us for all our uses, when really it fits only a few of them. On second thoughts, this is not quite just; they realise that where churches are concerned their style is quite absurd; therefore, since the style must be right and sufficient, churches are an anomaly and must be ignored. They are wiser in the home of the style; churches are built there, and the limitations of nineteenth-century Renaissance are recognised, but Gothic would be shocking, so the architects fall back on—what? The primitive and ignorant style evolved by the builders of the south of France, who, after their own dark ages, fell back on the Roman fragments scattered over the south and piled them up into curious patchworks of museum specimens, or, later, assimilated them into a powerful and solemn style that spoke eloquently of the stern and rugged civilisation of a nascent epoch. And inconceivably ludicrous are the results where the hyper-cultivated professors of the Ecole try to turn barbarians. Witness the church on Montmartre. Artificial, affected, anomalous, it has not even the qualities of good composition and effective scale that are the pride of the school when some form of Classic is in question. Unless it be the collection of designs submitted for the cathedral of St. John in New York, those offered for the church of the Sacré Cœur on Montmartre were quite as ridiculous and childish as any that can be conceived. Possibly the plan selected was the least bad, but all were hopeless; there was not a touch of religious feeling, of Christian imagination, even of knowledge of the essence of the styles affected, in any one of them.

There is something wrong here. The frivolous Renaissance of the ateliers was recognised as impossible, therefore it could not possibly be a vital, national, universal style; a return to historic periods was necessary, but then what became of all the boasted fundamental laws that should make good work inevitable, whatever the chosen style? The system had been tested and it had failed.

For the leaders and followers of the Parisian Renaissance cannot, ostrich-like, thrust their heads in the sand and so obliterate religion. The Church is, and must be, counted with. Personally, I believe it can be demonstrated that there is no single subject for design that calls out so much imagination, that demands such a use of architectural power, that makes possible such enduring and honourable monuments as a Christian church. It is also certain that with the exception of medium-cost dwellings there is no opportunity more common. But the French school of American architects is driven to the curious position of having to deny both these things, for the simple reason that the style they affect is not cognisant of Christianity. This is a pretty severe indictment to bring against any man, but I do not see how it is to be escaped.

And if it is true that the new fashion is powerless before the Church, so is it true that it has little excuse in some other places. As I understand it, it is a style purely French, or rather purely Parisian; it fits Gallic civilisation like a glove, and so it is good—in France. But we are English by blood, and we do not think in French ways, neither do we altogether act in them. Why, then, in heaven's name, is it any less affected for us to import a style from Paris than from England? Why is Parisian Renaissance a more logical form of architecture than English Gothic? Because it is nineteenth century? So is English Gothic—now. The Classic of Napoleon's time was pretty dead, as dead as Gothic in England under the Hanoverian Georges. It is vital now; so is Gothic; just exactly as living, and spontaneous and contemporary as Parisian Renaissance. It is not a case of living styles, one of which is French, one English. With which race have we been the more in common?

Do not think that I advocate either the one or the other exclusively. If we are English by blood and sympathy, we are French by perversity, and all must be expressed. There is much in our society that can better be expressed through the French style than any other; there is much in our civil life, our political life, that might as well use this form of expression as any; all are too good for it, even modern German or English commercial architectures, but there is a lot, and that the very best we have, that has no more kinship with the pleasing conceits of the boulevards than it has with Norman Romanesque or the Buddhist architecture of Japan. First of all, our religious life, with all its churches, schools, colleges; then our erudition, our education, our learning, with its libraries, schools, institutions; our private life, the life of country residence, with all its English qualities of health and vigour and informality; our commercial work, where sky-scrapers demand an utterly new architectural revelation. In all these directions I humbly submit Parisian Renaissance, as a style, meets with the sign "rue barrée."

And what shall assume its place? Just whatever style seems best to fit the power that gives the impulse. Is it the Church? There the answer is the splendid Gothic that Bodley and Sedding, and Austin and Paley and their scores of associates have restored to life and vigour. Is it higher education, the education of colleges and universities? The answer is the same. We are English, neither French nor Italian; therefore, let us not sell our birthright for a mess of potage du jour.

As for our commercial work, we are working that out all right as it is; it demands a new style, and we are achieving it, but not by way of the Ecole, rather by obeying the dictates of common sense.

For our civil architecture I cannot feel that any very clear way is opened as yet. What may be called our national style, the Statehouse order of architecture, has advanced from the horrors of the unspeakable Mullett to the dignity that characterises our contemporary work. It is not very original and not at all spontaneous; it is self-respecting, and that is much. Already the French school has given it a certain vitality, and if this does not become the flagrant copying, several examples of which we have wondered at lately—if we do not make ourselves ridiculous by building mairies d'arrondissements in Skaneateles and Kalamazoo—we may yet achieve something that will be well worth recording; only it must be American Renaissance, not Parisian of that ilk.

For we might as well admit one time as another that all hopes of a single style are vain. What our civilisation is, that must our art be also, and our civilisation is as various as our population.

To recapitulate, then, the influence of the French school is good just so long as it is the influence of solid and lasting principles of planning, of composition, of design; so long as it insists on vitality and modernism instead of archæological erudition; so long as it demands subservience to law and order; so long, in a word, as it deals with fundamentals. It is evil when it confuses an accident of fashion and locale with the things that really matter, when it binds itself to the latest vagary of French fancy, when it affects to despise the Church and her architecture and to look on Gothic as a barbaric episode, when it tries to force on a branch of the Anglo-Saxon race for all its purposes a style that is Gallic in its impulse, evanescent in its nature.

It is this ill-advised, and, I am convinced, unjustified fanaticism for a certain accidental mode against which I continually protest; it is the mistaken view of a great system of education which I regret to see introduced into our architectural schools, not the fundamental system itself. Ruskin was a bigot, and he made himself absurd by his frantic advocacy of certain forms of architecture; frankly, I think some of those who now most strenuously uphold exactly what he with equal vigour denied are laying themselves open to the same condemnation

Above all things let us have—in architecture—no bigotry. Let us look at the thing sensibly and in cold blood, allowing ourselves to be led away by no tempests of fanaticism. We want architecture that will be logical and national, and expressive of the agency that calls it into being. We cannot create a style, for we have not finished creating a civilisation as yet, and that must come first, but we have various powers or agencies that exist more or less independently of national civilisation and are not consequent upon it. The Church is one of these, and we, as architects, have a vast privilege extended us in being called into her service Her nature is fixed, her history clear, her racial succession for us a matter of record. If we reject her opportunities or trifle with them at all we harm ourselves and her also. Her architectural quality is inevitable; if we refuse to recognise it we stultify ourselves.

Domestic life is another of these agencies, and this also rests above the vicissitudes of civilisation. Our ethnic and historical connections are here equally clear. Except in "high society" we are not French at all, but thoroughly and wholesomely British, modified and developed by our own vigorous Americanism. As in the case of the Church, we have here a very great field for sensible work, though, unlike the case of the Church, it is one we have taken advantage of and have developed on sane and logical lines

These are two examples of what I mean by the agencies for creditable architectural work that demand their own diverse means of expression—means that have nothing in common with the accident of the French scheme, though much with its fundamentals. For the rest? Well, we must do the best we can.

The Applied Art Section of the Society of Arts will begin its meetings on January 30, when a paper on "Niello Work" will be read by Mr. Cyril Davenport. On February 13 Mr. John Sparkes will read a paper on "The Best Means of Arresting the Decay of Indian Art" Mr. Lasenby Liberty will read a paper on "English Furniture" on March 13; and on April 3 "Process Engraving" will form the subject of one by Mr. Carl Hentschel.

FURNESS ABBEY.

EXCAVATIONS have been fitfully carried on for many months past at Furness Abbey (the property of Mr. Victor Cavendish, M P.), under the supervision of Mr. St. John Hope, and from time to time interesting discoveries have been made. These excavations were recommenced last week with a view to deciding the question whether the Cistercians built a chapel before proceeding with the erection of the present pile. It was held by some and as strongly opposed by others, that traces of an earlier building would be found under the north-east of the present walls, and ultimately the guide (Mr. Jesse Turner) was instructed to make a trial. He opened a trench in the sacristy, and it was not long before he came across the walls of an apsidal chapel of early Norman architecture. The wall was found about 5 feet below the present surface, semicircular in form and evidently the east end of a Norman chapel. Further excavations show a similar wall more to the south. The walls run from about 5 feet to 6 feet in thickness. The guide when continuing his explorations unexpectedly came across a vast quantity of human remains. They were from 3 to 4 feet deep, but the width has not yet been ascertained. Some of the skulls were intact and of remarkable thickness, while the teeth in many cases were in a wonderful state of preservation. How many hundreds of years the bones have lain there is not known, but it is clear they have been gathered and placed in a heap, probably from the original burial-ground, which would be required for the subsequent enlargement of the monastery. The excavations are to be carried on till the whole of this part of the old ruin has been examined.

LONDON UNIVERSITY.

THE report of the standing committee of the London University deals with the transfer of the central and eastern portions of the Imperial Institute buildings to the University. It is stated that the University does not acquire its title to the buildings from or under the Imperial Institute, has no relation with that body, and does not inherit either its duties or liabilities. A sub-committee was appointed to consider the accommodation to be provided for the graduates in the new building and other matters affecting the graduates in connection with the removal to the Imperial Institute. The recommendations of the sub-committee were duly considered by the standing committee, which has presented a special report upon the new buildings.

It is recommended that three rooms be allocated for the use of graduates of the University, namely (1) Room No. 16 on the first-floor as a reading and writing room. This room is well lighted and lofty, and measures 27 feet by 36 feet. (2) The room on the first floor, now called the Fellow's dining-room, as a graduates' club room. This is spacious, centrally placed and well lighted. If this room, however, should be selected as the senate room, it is recommended that thegraduates should have instead one of the large rooms on the principal floor, numbered 18 or 19. (3) The room on the second floor over the Fellows' dining-room, for conversation and other social purposes, &c. The committee are strongly of opinion that the provision of this accommodation here suggested by no means exceeds the reasonable requirements of the case. They believe that the facilities so afforded will be of immense value to the graduates, and through them to the University. By rendering the University building attractive and comfortable as a place of study and resort, they will tend to perpetuate the personal connection of the members with the institution after their examinational period is concluded, and to promote friendly intercourse among those who will thus find themselves thrown together. It may thus be hoped that sympathies and common interests will grow up among our graduates, a result which could not fail to strengthen the position and consolidate the influence of our University It is added that to make the rooms suitable for the purposes indicated they should be properly furnished, separate lavatory accommodation should be provided for the graduates and the passenger lift should be made to open in the corridor

The committee recommends that the statue of Her Majesty belonging to the graduates, which now stands at Burlington Gardens, be placed in the vestibule of the great hall, where there is at present a statue of the Queen, which, it is understood, is to be removed. Should it be found that the back of the statue is insufficiently finished, this work should be put into the hands of a sculptor and paid for out of the equipment fund.

Other matters affecting the graduates are dealt with in the report, and the committee recommends Convocation to adopt the following resolution:—"That the chairman of the Convocation be requested to place before the Senate the report of the standing committee of Convocation on the accommodation at the Imperial Institute, and to respectfully request that the matters referred to therein may be favourably considered and the recommendations contained in it carried into effect."

NOTES AND COMMENTS.

Bolton has been enriched by the presentation of the historic building known as Hall-i'-th'-Wood by Mr W. H. Lever. The old house should be a centre of interest for all Lancashire. It was there that Samuel Crompton resided during the period when he, with much care and trouble, worked at his world-famed "mule," for which it was claimed that the spinner, with its aid, would be able to produce a yarn out of which delicate fabrics could be woven such as heretofore defied the skill of English manufacturers. But Crompton had to complete his work under many inconveniences. At one time he was in such straits that he cut a hole in the ceiling in order to have a secure place of concealment from the rioters, who were busy destroying all the spinning-jennies they could lay their hands on. Crompton at first made strenuous efforts to work with his invention in secret, but he was soon reduced to the dilemma of either destroying it or bestowing it on the public. He was loth to do either, but eventually he decided to make it a free gift. Some eighty firms and private individuals of Bolton promised to contribute a guinea each, but he only received 60*l.*, which scarcely was equal to the cost of the construction of the model, which was also given up. Crompton never was adequately rewarded, and when he died in 1827 he was as poor as any mill-hand in Lancashire. Mr. W. H. Lever also gives 1,200*l.* for improvements in connection with Hall-i'-th-Wood.

When the project was announced of raising temporary buildings for the rival societies of the Champs-Elysées and the Champ-de-Mars under one roof there were anticipations that the differences between the two would soon be settled. It now appears that the latter body, or the National Society of Arts, have resolved to rise out of the arrangement. The cause is one that has led to the breaking of many engagements—want of money. The Salon has been in existence for a very long period of years, and as its affairs have been prudently managed there is a balance at the bankers to meet all emergencies. Moreover, M. Bartholdi, the sculptor, has just presented a large sum. But the National Society is young, and has not been exacting, we believe, in recovering fees from the young artists who are its chief supporters. There may be also a notion that in 1901 the exhibitors of the Champ-de-Mars will be able to make an appeal *ad misericordiam* to the Government for the use of the new Palace of Fine Arts at a nominal rent. If the building in the out-of-the-way place is good enough for the Salon in 1900 it will not have become dilapidated in 1901. The case is another instance of the want of solidarity which characterises the majority of the French institutions.

In the sixteenth century Ligier Richier was known throughout Lorraine for the remarkable sculpture which he executed for churches. He belonged to a family of carvers in stone and wood, and if their history could be traced it is likely they would be found to have had prominent representatives during the Mediæval period. For one of the characteristics of Ligier is that, living in a time when the Renaissance was transforming the arts, and although there can be no doubt he was as susceptible to its influence as any of his contemporaries, yet in the majority of his compositions we can trace the Gothic spirit as if it were an expression of an instinct. According to some critics his most remarkable work is *The Entombment*, a great group of thirteen figures which is found in the church of St.-Etienne at St.-Mihiel. In the foreground Christ is supported by two men, the Magdalen is kissing His feet, another of the Holy Women is contemplating the crown of thorns, while in the background on one side is the Blessed Virgin, supported by St. John and Mary Cleopas under the direction of an angel, that, according to tradition, is a portrait of the sculptor. In another corner, where they are nearly invisible, the soldiers are playing dice. For about thirty years there has been a controversy in France about the disposition of the figures. Ligier Richier, it is believed, was not present when they were grouped. Nobody dare transpose them now. An opportunity arrived to test the disposition within the last month. Casts of the group were taken to be set up in the museum of the Trocadéro, Paris, and the director proposed to make at least one alteration. The gambling soldiers, he considered, should be placed in the foreground, where they were usually introduced by painters. It was necessary for the director to obtain the approval of the Commission of Historic Monuments, but he was unable to get it from those authorities, although many judges admitted that the alteration increased the effect of the grouping and suggested the sculptor's respect for precedents. Photography has, however, preserved a record of the proposed rearrangement, and we suppose a print will be shown near the group to enable students to study the problem.

It is always most unsatisfactory to enter on a competition when there is no certainty about a realisation of any of the plans. The premiums offered are rarely large enough to meet the expenses of preparing designs. What is attractive is the possibility of obtaining the commission to carry out the works. A competition in connection with the Hull Town Hall is now being arranged, and it will be made a condition that the execution of the work is to be postponed indefinitely until the Council's finances are in a satisfactory condition, or, in other words, until the required money can be obtained in the market at a cheap rate. The existing town hall was erected about thirty years ago, and before half that time had passed the size was found to be inadequate to the growth of the city. It is now proposed to expend about 120,000*l.* in altering and enlarging the building. The cost of erecting a new building on another site would amount to double that sum. There is a difference of opinion in the Corporation about the arrangement, but the majority are in favour of obtaining plans by competition and then to decide whether the scheme should be followed out or pigeon-holed until a remote period.

It suggests the interest which is taken in New South Wales in the auxiliaries for the Transvaal when we find Mr. Nelson Illingworth, the sculptor, of Sydney, has modelled a statuette of a trooper of the Mounted Rifles, which will no doubt help to increase the popular enthusiasm. The man is represented in uniform with all his arms, pockets, straps and buckles, and raises his right arm as if inciting others to join, or it may be he is expressing his desire to be despatched to the field. The statuette will be produced in various materials, and it is of a kind which deserves popularity in other places beside the colony.

If a few diaries could be found relating to an architect's practice at the beginning of the century, without going further back, they would be a great treasure. Wilars de Honcourt's famous sketch-book is generally considered to be equivalent to a diary with long intervals between the pictorial entries, for we supplement the drawings by imagining the route he followed from town to town, and endeavour to speculate why certain objects impressed him. All architects who have regularly posted their diaries from day to day or week to week will testify that the records of past years have surpassing interest for them. That, perhaps, is the sentimental side of the subject, but a man of business like an architect, who comes in contact with many men and has to deal with involved subjects, will find his comfort is enhanced when he has records which are not susceptible to the changes of memory. Indeed, the Association or some of the publishers would do well to offer prizes to young members for the best kept diary which records progress during the year. In England there is the advantage of diaries which are produced in so excellent a style as to remove the apprehension that diary-keeping is a bore. We have several times pointed out the success of the diaries Messrs. Hudson & Kearns and Messrs. Waterlow Bros. & Layton have produced. They are more than mere diaries; they contain information that is constantly required, and both are suggestive of a thorough business spirit.

ILLUSTRATIONS

WESTMINSTER ABBEY: TOWER AND BUTTRESSES, FROM CLOISTERS. THE TRIFORIUM.

MINLEY MANOR, FLEET, HANTS.

BRYANSTON, DORSET

LIGHT AND AIR.*

FOR some time I have endeavoured to bring about some amendment in the law dealing with questions of light and air, and the subject has been seriously taken in hand by the Society of which I am President. Great progress at present has not been made; still, the necessity for improvement is so evident that the time should not be far distant when some alteration or amendment of the law will be made. No doubt a great obstacle in the way is the reluctance there is to interfere with not only existing laws but existing interests. It is my desire in the course of this paper to show how great the necessity for alteration in the law is; and I trust also to show the remedy, and that it would not affect the rights of property

It is possible that an alteration of the law in the direction of simplification and a quick settlement of actions would reduce the expenses for professional advice which owners have to obtain in bringing and defending this class of action; but I feel assured that no professional man of standing either in the legal profession, the architectural profession or the surveyor's, would desire such a consideration to stand in the way of a change which would be beneficial and would avoid delays, and be the means of saving useless expense to his clients With regard to those gentlemen who have no consideration of this kind for their clients, I think I need not trouble myself It is for the prevention of the abuse (the very great and serious abuse there can be and is under the present law for purposes which are not legitimate) that we desire to see improved out of existence the present costly and evil system It is a saying that "opportunity makes," &c. It is the desire of our Society to prevent or to do away with the opportunity of bringing freely (as can be done at the present moment) blackmail and improper actions, also to prevent building owners running up buildings injurious to owners of adjoining property, without notice of any kind.

There has been considerable attention drawn at the present time to the want of High Court judges to dispose of the actions brought during the current sittings, so that there shall not be arrears left over to the next. I am of opinion that not only could technical cases, such as cases of light and air, &c, be settled more speedily and equitably, but with a small portion of the present expense by a technical court; and if the High Courts were relieved of this class of case (of which there are considerable numbers every sitting) the necessity for strengthening the Bench would probably be done away with. As I have said, I desire to show what from a practical point of view is the effect of the existing state of the law.

One of the first difficulties is the question of the rights of property. A right to light and air or any other easement under English law is acquired by having had an uninterrupted user for a certain number of years, and becomes a right of the property. Now in Scotland, and on the Continent where Roman law prevails, these questions cannot be made the means of blackmailing as they are in England.

Now let me at once say I do not intend to propose any interference with the acquisition of rights such as are obtained under English law. No right would be lost by the remedy I have suggested. In many, and in fact a very large number of cases, it would be much better to describe many of these acquired rights as a theft of that which rightfully did not belong to the property which acquires it.

The present state of the law assumes that everybody knows it and understands that if a gutter is overhung on to the adjoining premises, if a floor is supported on a wall belonging to an adjoining owner (even though he may never have seen or known that the floor was so supported) for a certain number of years, a right will have been acquired which must be reckoned with, often enough to the tune of very serious amounts when an owner wishes to deal with or rebuild his property. I have known cases where, through a party wall, and in more than one case through a wall belonging entirely to an adjoining owner, windows have been cut through above the roof, not only entirely unknown to the freeholder, who had let the property for a long period of years, but without the consent as also without the knowledge of the occupier or leaseholder A law which allows all this to be done necessarily cannot be very perfect, and it hardly seems to me like a protection of the rights of property; but it is the law, hence its power for evil must be curtailed as far as the law has to be reckoned with

To follow one of my illustrations a little further A person whom I will call "A" owned a house at the corner of the esplanade and a side street in a large seaside town. Some period after a person, whom I will call "B," erected a house in the side street adjoining "A's" property. It was desired many years after by the owner of the corner property to re-erect his premises, carrying them a floor or more higher than they originally were. Provision was made for the light and air of the adjoining owners of the esplanade, but as there was an independent wall belonging to "A" between "A" and "B's" premises, and the lights in the side street looked out only to the back and front, no provision was deemed necessary. On pulling down the property it was discovered that a window had been cut through and put in by "B" between the two hips of "A," the building owner's roof, that is, through the independent wall of "A." When "A" proceeded to pull the independent wall down it was found further that, although "B" had erected a wall from basement to ceiling of the ground floor, that above that height the wall was omitted and support taken off the existing independent wall of "A" There was no record of any right having been given for either window or support, and as far as an examination of those who owned the property formerly was concerned, no information could be obtained of any notice having been given. The solicitors, in whose hands the property had been for a great number of years, had no information either that any right or permission had ever been asked or given or notice received. Yet I take it that the side street owner "B" was within his right to claim and to prevent the corner owner "A" raising his building, and he did so, and also claimed and obtained the right to use the independent wall more or less as a party wall. Now I would ask any common-sense man upon which side, taking these facts as correct, should the rights of property lie? Upon which side had the rights of property been protected? This is not a single case; there are scores of similar cases. I think while this case goes to illustrate my point, their numbers will prove the waste there must be by expensive actions, while the delays there must be when owners attempt to build is almost unlimited. There is hardly a building commenced in which some difficulty as to light and air does not crop up.

I do not in the remedy suggest alteration in the manner in which such rights are built up under the law. I hope that the remedy by preventing wasteful expenditure in law suits, if once brought about, would go a long way to prevent not only many of these infringements being sought after, but their being made a source of blackmail where they exist, and also preventing serious delays to the building owner (which delay is, after all, the main reason why large sums are paid), as to be stayed by an action for injunction is in many cases not only serious, but often ruinous I do not by my argument or this illustration put it forward that there are no legitimate claims of light and air, because there are many, and equally on this side the interference with rights of owners would be prevented and no one would be prevented from protecting their rights by the fear that the building owner (who, possibly a wealthy man) will put them to all the expense he can, and at least to the expense of a heavy action. The fact that notice must be given before building is commenced, and that the case would be brought at once before the technical court, would, in my opinion, and I think in the opinion of most people, go a long way to prevent illegitimate claims on both sides of the question.

I will give you a few instances with which I have become acquainted, and which will still further show in themselves the trivial nature of some claims set up, and also the delay and expense which they can cause One case in London. An old house had been at some period divided into two, and though the division wall between the two had been carried up right through the house, in the roof no division had been carried through. Both houses had an opening into the roof and each had repaired their own part.

The time came when rebuilding operations were set on foot by the owner of one of the houses. After he had partially pulled down, the owner of the other half set up a claim that the space in the roof belonged to him, and therefore the adjoining owner could not go higher and could not remove the roof. In order to prove the right to the space in the roof it was shown on a plan as a workshop, and some small bundles of material used in the trade carried on, on the plaintiff's side, were put into the roof. The height of the centre part of the roof was only about 4 feet 6 inches, and the rest of the roof, sloping down as it did, there was necessarily very little height anywhere. A man could not have stood up to work in any part of the roof, and in fact to walk along in the highest part a man had to stoop. The whole space was small and unlighted, and quite impossible as a workshop, nor did it show evidence of its having ever been so used. Still, upon this claim the building was stayed, and although eventually the claim fell to pieces, there were large expenses incurred in fighting the action, and the defendant by not being able to go on with his rebuilding lost a considerable amount of trade to his premises.

Another case, where considerable improvement had been made to the surrounding property by the building owners, a claim was made by the owner of a small property, which a year or two before the improvements would have sold for about 1,000*l.* freehold. The claim of the plaintiff in this case was no doubt right to the extent that his building would be affected as to light, and had he in the first instance put forward his claim he would have enabled the building owners to arrange the buildings in conformity with any line which had been settled. But the course taken in this case was to allow the building owners to commit themselves thoroughly to the building operation and to wait until the full height at which any claim for light must be made was attained. Then the claim was made, and all the work done above the height, even before the injunction was obtained, was eventually decided by the judge to be pulled down. I suppose the costs and expenses were not less than 2,500*l.*, and the time occupied by the action eighteen months; but in this case the buildings were pulled down rather than buy the claimant's premises at an exorbitant price, which I am of opinion was the real object in view. That the building owners were allowed to proceed in front of the windows of the plaintiff with their work until the last moment, and to do so in such a manner as showed conclusively the intention was to erect a high building, without a complaint, which if made would have stayed the building owners, seems to leave but one obvious conclusion to be drawn. When building owners are thoroughly committed to a building such as this was, it is of course highly probable they will pay and pay high rather than be stayed in their work; but in this case if such was the object it failed, but as I have stated with a waste of 2,500*l.* and eighteen months of time.

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* An address to the Sheffield Society of Architects, by Mr. Walter Emden, J.P., L.C.C. (president of the Society of Architects), on January 9.

Another case of a similar class I remember, in which the owner of an adjoining property claimed a right of light and air from a window cut right through the party wall, but which had been covered up evidently since it had been cut through by the other owner by placing an obstruction in front of it. After the obstruction's removal, during the pulling-down, the case set up was that light came regularly through this window, and it was of great and serious consequence, and that the obstruction was not there to impede it. Also a general claim was made that the height of the buildings was such as to interfere with the light of other windows. An interim injunction was refused and the building owner allowed to proceed on the usual terms until the trial of the action. The decision eventually given by the judge was that there was no claim for this particular window, but that there was damage to light to some other windows by the height of the buildings, though they were only affected laterally. The damage to these lights was only proved to a trivial extent (covered easily by small monetary damages) but an order was made for pulling down, thus illustrating the risks and uncertainties of the present methods of trial. As a consequence, the object for which the claim was started succeeded, and the building owner, rather than pull down, paid 1,500*l.*, and with his own costs expended considerably over 2,000*l.* The whole value of the adjoining property from whence the claim was made was about 3,000*l.* These cases are not singular; there are undoubtedly hundreds of them, and the waste and delay and uncertainty would total up to an enormous sum of money every year.

Passing from the reasons which influence the bringing of a large portion of these actions and the uncertainty as to their results, more particularly, to the question of delay to building operations, I would impress the serious nature of this point by drawing attention to the course of an action similar to many I have had to deal with. There being no means such as I have suggested there should be under a technical court by which notice can be given to all adjoining owners, it is usual for these claims to be made only when building operations are observed to be proceeding, at all events where it has not been brought to the knowledge of the adjoining owners by a party wall notice or some other means required under the Acts dealing with building operations. When notice is received from the claimant it is possible it is followed up by some little time being spent in negotiations, then if these fail, by an application for an injunction, all this probably occurring after the building owner is committed to his contract.

Necessarily, in claims such as these, complicated by many drawings and technical questions, the judges cannot give a decision on the application for an interim injunction and the case goes for trial, sometimes with and sometimes without the grant of the interim injunction, and from the date at which notice was first given for an injunction the trial will probably not be less than twelve months, and may not infrequently extend to eighteen months or two years. Building owners and professional men will understand what such a delay means in the midst of a building operation—the difficulty with the contract and contractor, and the loss of rentals and of business—and will be able to estimate pretty accurately what pressure such delay brings to bear on the building owner to come to a settlement even upon terms which may be absolutely outrageous.

Another and strong incentive to acquiescence in heavy claims, to avoid actions at law, is, that in order to try these cases it is necessary to bring a considerable amount of evidence before the judge and jury, all of which is expensive, and all of which must be met on the other side by experts and witnesses equally expensive, and both may fall on one of the litigants. I have known cases in which, for the proof of one angle of light (which was only considered a minor portion of the case) something like eight or ten drawings had to be prepared with all the necessary copies, and, what is even still more expensive, models of the building in question prepared also.

In cases the decisions of which are so uncertain as these decisions are, it is absolutely necessary to put in evidence of the most minute character, so that it shall be most thoroughly brought home to the jury as well as the judge (the jury, too, composed of men who have no technical knowledge) the exact value of each claim made. Now, on the other hand, this evidence, of course, would be entirely unnecessary in the event of the case coming before the technical court, where the true nature of the claims would be easily and speedily ascertained and dealt with.

I think what I have said goes a long way to prove what the expense, difficulty, delays and uncertainties are in dealing with cases of light and air, and I think also sufficiently prove the necessity there is for some radical alteration in the law, while the advantage to be gained by determining these cases expeditiously and economically are, I think, evident to all. It is not a question of taking away any rights of property, but of protecting those who have rights from having them taken away, and those who desire to build from paying blackmail.

The suggestion which is made for a remedy is the constitution of a technical court, under the London County Council, in London, and under the Corporation in provincial towns and cities. Every building owner should be compelled to deposit a full set of the plans for any new building or material alteration of an existing building with this authority, paying such fee as will cover the expenses of the court in dealing with them, or as may be deemed necessary by such authority. The court should then require the owner to give notice to all the adjoining owners or others who may be affected, and after examining the proposed plans to ascertain what, if any, interference with rights of light and air or other easements existed, determining also at the same time that the plans complied with their bylaws. Then the court should proceed to hear, if required, the objectors and the building owner, and after such hearing decide as to what modifications, if any, of the plans were necessary before consenting to the building being erected. The fact that such a decision was given before building operations were commenced, and before the building owner was pledged to his contract with his builder, would of itself be a substantial boon, apart from the greater saving obtained of time and money, from its being an absolute preventive of blackmailing in petty or trumped-up cases, while such decision would effectually protect, on the other hand, those who had legitimate rights from the chances of buildings being run up without notice and their rights improperly interfered with.

I fail to see that any proper vested interest could suffer injury, and under these circumstances the good arising from it, as I think I have shown, must undoubtedly prove a valuable help to public and professional alike, and serve thus to encourage building operations. I in no way wish to pledge myself or the Society to the details by which this beneficial change should be brought about, but I suggest what seems to me a simple means; that is, an extension of the powers of the Building Act Tribunal in London and of the local authority for the provinces. The fees charged to establish the necessary tribunal or court to be made to cover all the expenses of such court and its attendant officers, and I suggest they would still be moderate enough to become a mere drop in the ocean compared with the present wasteful process.

Future discussion on this subject may devise better means; but anyway, it is in my opinion (and I trust it will be the opinion of all those to whom I speak) evident that the settlement of this subject is urgent, and should not be longer delayed.

The Society of Architects have presented a petition to the Lord Chancellor, and I have also laid before the London County Council a notice of motion for the Building Act committee to consider this important question, and I hope for the hearty and substantial support of the profession and the building public.

Our great difficulty, that the question does not appeal directly to the great body of the public who, though they may suffer occasionally, do so for the most part indirectly, must be overcome by those who will, I am sure, feel the force and necessity for the remedy which we advocate, and I trust they will also use their best endeavours to bring it about.

ENGLISH AND AMERICAN ARCHITECTURAL PRACTICE.*

BEFORE attempting a comparison of the present conditions of architectural practice in England and in America it will be necessary to consider the circumstances which in each country have called into existence the distinct profession of architecture.

For nearly three centuries England has had architects, men who form a recognised branch of the building trade. Before 1600 the times were times of handicraft, of guilds, of master craftsmen, of men who, having passed all grades in their chosen trade, knew all that was then to be known on the subject. The master masons were in a way designers as well. From father to son, from generation to generation of craftsmen the knowledge was handed down, and beauty was the outcome of the natural desire of the good craftsman to add something more than mere good workmanship to the work of his hands.

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* An essay by Mr. R. Clipston Sturgis in the *Architectural Review.*

The history of Gothic work and the gradual solution of the great structural problems therein involved are the proof of the ability of these men as constructive builders; the wonderful beauty of the buildings is clear proof of their keen artistic perception.

No less clearly do the various buildings show how empirical were their methods, and how only after many efforts and much experiment and frequent failure did they succeed.

With the Renaissance came an attitude of mind and a tendency which made the old method impossible. By the standard of those who pinned their faith on the literature and art of Greece and Rome, no good could come from a source so unlearned as that which produced the Mediæval work.

When the English mason was asked to build in the new fashion he was ready and willing enough, for many forces were combining to destroy the life of the old methods, but he could not do so unless some man should show him the way.

Thus the English architect came into existence as a man who was neither a cleric employing spare hours in design, nor yet a master builder, but somewhat of both—a man who had read and studied, knew something both of modern and of ancient Italy, and who from this time on became the master spirit in all that was built. It was a very short time—surprisingly short—before the profession was established and recognised. Its limits, its duties and obligations and the remuneration therefore became gradually established and defined.

Such, with slight changes, it has remained up to the present time. There is perhaps a somewhat greater gap between the builder and the architect, and the architect has won a certain amount of distinction, approximating that enjoyed by the painters and players. The English architect is therefore a man with definite duties established by long usage, hardly different from what they were 200 years ago.

On the other hand, the American architect is of much more modern growth, and the result of very different circumstances. At the time of the Revolution there were, so far as we know, no architects whatever in this country.

Our delightful Colonial work was like similar contemporaneous English work (*i.e* simple country and suburban houses), the work of trained mechanics who worked intelligently from the architectural books and prints which were then common, and under the guidance of owners who took an intelligent interest in the then popular study of the orders. When, after independence was established and we were thrown on our own resources, architects were sought there were none to be found. Bulfinch stands out an almost solitary figure at this time. Even so recently as the middle of the century one could count on ten fingers the architects of the country, and they were all in the eastern States.

Architecture was then an agreeable occupation for a gentleman of refinement and education, and was not taken very seriously by the architect or by his client. The client did not know just what service he should expect for a commission of 5 per cent. on the cost, and the architect was occupied largely with the design, the principles of which he understood but vaguely and the practise of which he understood not at all. Quite different all this from the condition in England.

The drawings of this period would hardly pass muster as preliminary sketches to-day; full-sized details were either inadequate, showing lack of knowledge, or entirely wanting, and specifications were meagre. In the thirties there had been a sort of Grecian revival, and along with it a renewed interest in Mediæval work; and just when the condition promised some results the Civil War upheaved the country and checked progress for a decade.

Then, as if the pent up energy of seventy years was all suddenly let loose, began an amazing time of building and an enormous demand for men competent to design. It is little wonder that the demand could not be met and that so much bad work should have been the result.

It was but the beginning. The older men still ran their offices on the simple, informal old plan; made drawings which left much to the discretion and imagination of the builder, and specifications which left much to his honesty and integrity. "First-class material and workmanship throughout" was made to cover a multitude of sins of omission, and the builder secured himself by generous allowances for blanket clauses, or made up for low bids by the cost of the extras.

It was largely the clients themselves who demanded a change, and the younger generation which responded to that demand. They went to Paris and studied, they travelled, they read and absorbed. They were forced as well to learn business principles and methods. In twenty years the profession of architecture from being but an amateurish copy of the English profession has come to be one of far greater complications and responsibilities.

All this seems, perhaps, a lengthy introduction to a comparison of English and American practice. It is, in fact, not an introduction at all, but the gist of the comparison. The Englishman is doing to-day for a commission of 5 per cent. just about the same amount of work as has been done for the past one hundred years. The American architect is not only doing ten times as much as his predecessors here, but is doing very considerably more than his English brother, and the result, in many cases, especially in the small buildings which pay least well, is that we do not do our work as artistically as they. On the large pieces of work there is often no time for study, on the small pieces of work one cannot afford to give the study. Only the enthusiast who cares more for the result than the pecuniary reward, or the man of exceptional ability and resource can produce well-studied and good pieces of work on a small scale. The work which pays best, large simple buildings, warehouses, offices and such like, is always put up as rapidly as possible, and the architect is as much hurried as any one else employed in the execution of the work. More important buildings such as libraries, schools, town halls and other public buildings, municipal or federal, have too often with us been designed by political appointees, not always as competent as could be desired.

In all the above classes of buildings the knowledge requisite for the proper execution of the work is very considerable: constructional knowledge covering masonry with various methods of laying foundations to carry great weight, complicated engineering problems, steel construction, timber-work, joinery and plastering and the other ordinary trades; besides these a knowledge, both practical and theoretical, of the laws of sanitation, of heating and ventilation, of electric work and its application for power, light and heat; this knowledge the architect must himself possess or must pay some one to apply for him. Under these circumstances it is impossible that the best work should be produced when all must be accomplished in the least possible time.

Compare the routine work of an English and American office:—

1. *Preliminary Sketches.*—These are much the same in both, but with one striking difference. A large proportion of our younger men who have had training are first-rate draughtsmen who can render scale drawings or perspectives with marked skill. The English draughtsman who can make a show plan or a good perspective with pen, pencil or brush is distinctly the exception. Those who do render well will take six days to render a drawing which one of our men of similar standing would do in as many hours. The English drawing would be more faithfully accurate, but would not necessarily give a truer idea of the completed structure.

This facility of draughtsmanship is by no means an unmixed good. It is apt to lead one to view the drawing as if an end in itself instead of the means to an end, and anyone familiar with professional work will surely recall American sketches which are far more interesting than the completed work, while the reverse is often true of English work. The argument has been advanced that the architect's sketch is his ideal, and might reasonably therefore exceed in beauty the bare reality; and so to reach this ideal one finds men here and there deliberately attempting by a forced untrueness of line to give the picturesque effect of the sketch—an effect which time only has a right to produce. This hardly seems to be the province of architecture. The untrueness which is the result of man's handiwork as opposed to a machine product, that indeed we may have if we will pay for handiwork, but not by inventing machines which shall try to imitate such irregularities. If the roof-tree is hewn from the log and the ridge betrays some unevenness of line, why that is one thing, but deliberately to introduce a wave in the ridge is quite another.

2. *Working Drawings.*—These in England are nearly all drawn at $\frac{1}{8}$ inch scale, which is amply large to show all that the architect is required or expected to show. The general American practice is to use $\frac{1}{4}$ inch scale, which, while it does not necessarily take twice as long, does certainly require very much more time, and incidentally takes more material. When this is applied to a good sized building with eight to ten storeys, four elevations and two or three cross sections, the difference between $\frac{1}{8}$ inch scale and $\frac{1}{4}$ inch scale in cost to the architect is very considerable. The larger scale drawings are in England generally drawn at $\frac{1}{2}$ inch scale, and here at $\frac{3}{4}$ inch or 1 inch. That is a trivial difference which counts little either way. English offices, however, probably make a larger number of $\frac{1}{2}$ inch scale exteriors than we do, and this for the purpose of explaining the $\frac{1}{8}$ inch scale drawings.* This seems to me a good practice, as a very few parts drawn at $\frac{1}{2}$ inch scale will supplement the $\frac{1}{8}$ inch scale, and give a more definite idea of

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* The practice of individual offices varies so much that this n be taken only in a very general way.

the whole than will the ¼ inch scale set without such explanatory large scale drawings.

3. *Details.*—When it comes to these the individual offices differ so much that it is difficult to compare the practice In general, one finds more duplicating of mouldings, ornament, mantels and the like in England, and a consequent decrease in the number of drawings required. With us the restless desire for change and novelty finds expression even in such trivialities as a different moulding for the base and door and window casing on each floor, and sometimes in each room on each floor, and an expense to architect and owner which is hardly repaid to the former by any substantial increase in commission, or to the latter by any appreciable added value to the house, whether material or æsthetic. On the other hand, only an hotel would warrant the duplicating of designs for the mantelpieces throughout, or at least throughout the less important rooms, which is not an uncommon practice in England.

The American love for variety is also responsible for the house of many styles—an English Tudor hall, a Louis XIV. dining-room, an Italian loggia, a Georgian library, a Louis XVI. salon. Of course all this means considerable added expense, and when expense is no object the architect can readily make such work pay even at 5 per cent., and in many cases 10 is charged for interior finishing.

Then, again, it costs no more to make details for execution in French walnut than for execution in cypress, nor does a design for a mantelpiece in white pine take less time and thought than one to be executed in marble. So in the long run the very expensive vagaries and varieties, although they entail more work, are really remuerative

Nevertheless, it is true that the simpler methods of design make English practice less complex, and familiarity with a great number of styles is not a necessity or even desideratum with an English architect.

However unpleasant the general attitude of the English, that nothing is so good as what England produces, it is at least better than the reverse, so common with us, that nothing is good unless it is foreign. In architecture, as in all else, England is content with its own work, borrows sparingly from outside, and when it borrows it quickly stamps the loan as its own property, appropriates it, and makes it English.

English detail is therefore of a nature which is always familiar to the English mechanic—it is to be noted that it is executed nine times out of ten by Englishmen—and the architects may therefore leave a good deal to the skill, knowledge and judgment of the mechanic. The American architect, working in half a dozen styles at once—and, it need hardly be said, not a master of all of them—must have his work executed by Italians or English or Frenchmen, who may or may not be familiar with the style or the architect's drawings and methods. It is therefore essential that the drawings shall be accurate and complete, and that the superintendence of the execution shall be frequent.

4. *Specifications.*—Here is the really great difference. The American architect, from being expected to know nothing, has leaped to an eminence where he is expected to know his art and his science complete—the outline of the Greek echinus, and the character of Louis XV. ornament, the safe load on a built girder of certain section, and the laws of sanitation and ventilation. He, or his assistants, or men employed and paid by him, must not only prepare plans which shall give clearly the necessary information for every trade, but he must write a precise and accurate description of every single thing which enters into the construction or decoration of the building.

This detailed knowledge the English architect may or may not possess. It is, at all events, not an essential, and what is more to the point, he does not have to render this exceedingly difficult service and be solely responsible for a set of drawings and specifications which shall form a basis for a complete and binding contract. The English architect in good practice, having completed his drawings, which for a house would embody all the plans and elevations and from three to five sections at ⅛-inch scale, all dissimilar portions of the exterior at ½-inch scale and 1-inch scale, and sometimes full sizes as well, of nearly all interior work, hands these, together with a sketch specification, to his quantity surveyor It is the sole business of the surveyor to take off quantities, and to do this in so complete and exhaustive a way as shall leave no possibility of more than one interpretation. If this man be also familiar with the work of the architect it will be readily understood that very meagre specifications will suffice to explain fully to him the complete set of drawings. His bill of quantities is no mere bald statement of the number of yards of excavation and the number of thousands of bricks, but gives also all the information which a specification should give; and every item of labour in connection with the stock is scheduled; as for instance, in describing an ogee roof to a turret, having given the number of feet of boards, he adds "—— feet close cut and mitred hip joints on 1⅛-inch boarding of o. g roof including cutting and waste on ditto on both sides up to do." Or again, five lines of description of the stonework of a window, "One hundred and sixteen cube stone and all labour in sunk three times moulded and grooved window jambs and heads with stool for jambs, mullions, &c."*

In this way, then, and with like detail, he covers every trade in the building, except perhaps heating and electric work. These will be considered later.

Having thus drawn off his quantities, he writes for the architect his final specification. The work thus performed by the surveyor is calculated at 2 per cent. of the cost, and is included by the builder when he hands in his estimate. As further showing the completeness of the survey, it is not infrequent to find a builder making his estimate on the quantities without seeing either the specifications or the drawings.

5. *Superintendence.*—We are constantly endeavouring to explain to clients what is implied by superintendence, to show that we cannot be on the works all the time and yet attend to our business. In England no such explanation is needed, no constant supervision by the architect is expected. Every building has its clerk of the works paid by the owner.

6. *Technical Trades and Allowances.*—In many English offices heating, ventilating, electric work, and sometimes sanitary work is placed by the architect directly in the hands of some reliable firm. They take the plans and lay out the work, write the specification and give the bid. This amount is included in the bill of quantities, thus:—"Include —— for heating to be executed by Messrs. So-and-so," sometimes adding what service the builder must perform for said heating firm.

Carving will often be included in the same way, thus insuring having the man desired by the architect. In an American specification one sees occasionally a clause binding the builder to employ a carver selected by the architect. When one considers that the sculptor is not a tradesman or mechanic, and that his services vary enormously in value, this seems hardly a fair practice unless there is a clear understanding as to whom the architect will select.

Sometimes when drawings are not complete, fixed sums are included for various pieces of finish. There is a still further provision looking towards the avoidance of extras, which is the simple expedient of putting in extra quantities here and there marked "provisional," which can be used or omitted at will. Thus when the builder has filled out the prices on his bill of quantities, and filled out his tender in due form, there is included not only all trades and all contingent expenses that can be thought of, but also the 2 per cent. due to the surveyor, and all expense incurred to date for other surveys, for printing and lithography, and the owner has the satisfaction of being fairly well assured that the amount is complete and not likely to be added to except by his own desire and change.

Finally, before leaving the comparison of the routine work in the English and American offices, one may note that English offices almost invariably contain pupils who pay a considerable yearly sum, perhaps one hundred guineas, and that in some offices the fees from students would nearly if not quite cover the salaries of the paid men.

It will be seen from the above that in many ways English practice is simpler and the work less complicated than in America. To sum up:—

The English architects use a smaller scale for working drawings and make fewer of them. They work more generally on well-known lines, and the work requires less superintendence. Nor are the innumerable copies of drawings required in England. It is sufficient if a single set be supplied to the clerk of the works, who copies (at the expense of the owner) and supplies the builder. Sets of blue prints are practically unknown.

The running expense of the office is greatly reduced by the fees of the students and by careful book-keeping, which often charges even stamps to the client.

Much labour and expense is saved in specifications. Not only are these written outside the office without any expense to the architect, but he has not even the expense of copying. Any trade requiring any further information must get it from the builder. It is fortunate that a few copies will suffice, as the typewriter and manifold copying do not seem yet to be in general use, and the specifications and bills of quantities are written in a fair clerkly hand on legal cap†

The architect is saved much time, in that all the figuring is done at the surveyor's office, and is based either on the bill of quantities alone or else on the one set of plans furnished by the architect.

Many of the more complicated trades, which in America take up so much time and thought, heating, sanitation, &c.

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* In either of the above cases a drawing (which must be made eventually in any case) would have given all this information without a word.

† A small school had 4,600 words in the specifications and 5,500 in the bill of quantities. A large country house had nearly 20,000 in the bill of quantities alone.

require no more time or consideration on the part of the architect than to give a rough tracing of the plans to a competent firm and tell them what is required.

Perhaps if we were not always so anxious to make the best possible bargain we could do likewise; but few owners want bids which are not competitive, and one fears there are few firms one could quite trust so to bid Furthermore the American owner often feels that he is paying the architect not so much that he may get a work of art, but that he may get his building well done and at the lowest cost, and that for the architect to avoid writing specifications and getting competitive bids for important parts of the work is to shirk what he is paid for.

But there are two sides to every question, and if the heating engineers are absolutely to be trusted one may perhaps get the best result by going direct to one firm and putting the work unreservedly in their hands and the responsibility on their shoulders.

The result to (*a*) the architect, (*b*) the owner, and (*c*) the builder may be roughly summed up as follows :—

(*a*) As between the English and the American architect, there can be little doubt that the Englishman does far less technical work for his 5 per cent., but one is inclined to think that this very freedom from burden gives him the opportunity for more thought and study. In the best houses and churches there is an infinity of detail, all of which comes direct from the architect's office. In the houses all inside finish and many fittings which would usually come in under furniture, carving and inlay, wrought-iron work, steel and brass, finely-finished rim locks and knobs, hinges—in fact, all those little accessories which everyone who has his profession at heart would be glad to do if he had time and could afford it—all these the architect designs and has executed And in churches, the pews, stalls, screens and all the fittings of chancel and sanctuary, tile-work and mosaic, brass, gold and silver-work, and in many cases beautiful colour decorations, all are his duty and his pleasure. In addition to this, many men find time to give designs for woven and printed fabrics, for papers and embroidery, for gold and silver work and jewellery. When one considers this, and also that work goes more slowly and costs less, one sees that with all his economies, both inside and outside the office, the English architect probably has not so great an advantage as would appear on the face of it.

(*b*) The owner evidently pays 7 per cent., 5 per cent. to the architect and 2 per cent. to the surveyor, instead of the 5 per cent here; and besides that a considerable sum for a clerk of the works and for incidentals (in one case for "lithography and expenses" 34*l* had been incurred before signing the contract, and in another 28*l*.). Whether he gets his money's worth in closer and better estimates, where all are based on exactly the same work, or in better workmanship—where all is so carefully superintended—it is of course difficult to say. It is, however, certain that the cost of building is constantly increasing, due to the rise in material and the combined rise in wages and decrease in the efficiency of workmen; and sooner or later there will be the same sharp competition which with us causes everyone to seek the cheapest market, and above all to save time. Of all things time seems to be the article least valued in England; no profession and no trade exists which does not appear to have more time at its disposal than it knows how to employ profitably

(*c*) The builder would, at first sight, seem to profit almost as much as the architect by the services of the quantity surveyor; but when one considers the amount of time spent by the surveyor in taking off the quantities (from three to five weeks) one realises how complicated his method is No builder who was obliged to take off quantities in such a fashion could do business with us Each man has his method and his own ready road for reaching results, and would take off in three days that for which an English surveyor would require three weeks One fancies that it takes an English builder as long to estimate on his quantities as it does an American builder to take off quantities and estimate also

It does seem, however, as if some way might be devised which should recognise the waste time and energy which is spent in having from five to ten men to take off the identical quantities, and run the risk of making mistakes. A man who is constantly taking quantities and doing nothing else is not only less liable to error, but will detect and correct, or call to the architect's attention, omissions or errors in the specification.*

American offices, as a rule, are aiming to make their specifications more and more concise, and one can hardly question that an American builder would prefer a good drawing to an elaborate verbal description; but one sees still many offices whose specifications are even more bulky than the elaborate bills of the English surveyor. The two are, however, very difficult to compare, first, because the division of trades is quite different. Carpentry and joinery are wholly separate trades, as are also that of the stonemason and the bricklayer; and the plumber does the lead roof and flashing and the conductors, but has nothing to do with the hot-water circulation or the drainage. And second, because there are, apparently, many things taken for granted and omitted which we find it necessary to specify, such, namely, as the composition of mortar for plastering, especially gauged work, kiln-drying of finishing stock and the width of boarding generally, for roofs or floors. With us such things could not be taken for granted, but in England, apparently, they can be, for the workmanship is excellent, and things stand well. And, third, because specifications and quantities do not always agree, and must in any case be taken together to give all the information contained in an American specification.

In conclusion, one must apologise for attempting to handle a subject which really requires a most thorough knowledge of work on both sides of the water, and express the hope that at least the attempted comparison may lead to some interchange of ideas on the subject.

ART ENAMELLING UPON METALS.*

(*Concluded from last week*)

IN their desire to offer what was precious to the service of God, Mediæval Christians delighted to fix jewels in gold mountings upon the picture, either studded upon the robe of the Virgin or on the breasts of the saints. In early enamels these jewels were represented by dots of gold and coloured glass The custom of dedicating gold and jewels to church use is now obsolete; indeed, we now use little for our churches but distemper in stencilled patterns and cast-brass ornaments, the whole work being done by contract by some tradesman. Sometimes, to keep up the illusion, we give to the figures the staring eyes and rigid drapery of Byzantine times These miserable imitation fossils of bygone ages are the astonishment of the poorer classes, who wonder why the artists who decorate churches draw so much worse than the pictures in the penny illustrated papers. But to appreciate Byzantine and Gothic work it is necessary to enter into the spirit of those who valued relics, and subscribed great sums of money to make shrines for them, and even fought battles for their possession.

But towards the end of the fifteenth century, the public, though still under the domination of Gothic traditions, had imbibed a considerable amount of Renaissance taste and feeling, which manifested itself in a desire for a more free and natural style of drawing. There therefore arose a demand for fresh work in enamel, more in accordance with the new style of art that was gradually gaining ground In response to this demand, a totally new mode of enamelling was invented, derived partly from the jewellers' work of the day, partly from the art of glass window painting. It is not clear where this invention was made, but it seems to have been introduced simultaneously in Italy, Germany and France.

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* Incidentally it may be said that the quantity surveyor is responsible for errors, but as he has considerable influence, such errors as may occur (and they are not common) are generally adjusted without charge.

On the Bulk of Specifications, English and American. An English church specification, including no heating, light or fittings, contains thirty-five hundred words, and covers general conditions, foundations, and the work of the brick-mason, mason, slater, carpenter, joiner, plasterer, founder and smith, plumber, painter and glazier. In all there are seventeen pages, of which the bricklayer has two and a half pages, the carpenter two pages, and all other trades a smaller amount. An English house with a specification covering all trades but heating, has 108 pages, or about 27,000 words; this accompanied by thirty-seven drawings at $\frac{1}{8}$-inch and $\frac{1}{2}$-inch scale, and full size. A bill of quantities of a similar house contains 19,000 words; but bells, heating and hot-water system and range, and structural steel, are included at a price, without specifications or quantities. An American city house specification, covering all trades, has over 35,000 words. This is under thirty-six different headings, of which eight are for furniture and decoration and eight for the various trades connected with the laying-out of a small garden. This subdivision of trades and contracts will often save the client a considerable amount in the final cost, but involves labour, both in the office and in superintendence, which 5 per cent. would not cover, and for which a larger sum is rightly charged. Another of a city house contains 13,000 words. This is under eight headings, but does not include heat, light and bells, nor furniture and decoration—these latter being, of course, quite exceptional in any specification. This latter specification was supplemented by very complete drawings, both at $\frac{1}{4}$-inch scale and at $\frac{3}{4}$-inch. A country house, not as large as the English one, contains 7,000 words. This covered the principal trades except heating and electric work, but did not cover the more elaborate finish of the principal rooms. It was concise, but perfectly definite, and accompanied by a complete set of drawings, at $\frac{1}{4}$ inch and larger scale, and, on the whole, seemed to give as clear a description of the work to be done as the more extended description. With the exception of the first, these are somewhat similar in bulk to the English, but the English specification is supplemented by the quantities, which, as the figures above show, are as long if not longer than the specification.

* A Cantor lecture by Henry Harding Cunynghame, delivered at the Society of Arts, and published in the *Journal*.

The new method consisted in covering thin plates of metal with layers of coloured enamel, no longer melted into the recesses of cloisonné or champlevé, but made to flow over the whole plate or parts of it, and in gradations of thickness, whereby gradation of tint was obtained. The town of Limoges again took the lead in this manufacture, and retained its supremacy so effectually that this sort of work is known as "Limoges enamel." It seems certain that the members of the Penicaud family who practised the art of glass painting were the first to execute this new work in Limoges. They took as their models the coloured pictures which adorned the breviaries of the day, and which were in the Flemish style, with French influence.

"Nardon" (that is to say "Leonard") Penicaud was apparently the eldest of the family. His method was—having covered a thin plate of copper or bronze with a layer of opaque-white enamel—to paint, with a brush or pen in dense black upon the surface so obtained, a picture in strong outline, so as to resemble one of the coarse, strongly-cut woodcuts of the period. This was fired to melt the surface of the enamel and fix the black outlines much in the same way as a black print upon a piece of china. To do this the charcoal furnaces then in use by glass painters were no doubt employed.

The next step was to cover the drawing with layers of transparent enamel, much as one would colour a woodcut with paint. Nardon used five transparent colours, namely, two shades of saffre (cobalt), turquoise made from æs ustum (oxide of copper), grass-green from crocus martis (iron), and violet from "peridot," or that form of manganese ore which is found near the town of Périgueux, in the vicinity of Limoges.

There appears to have been no transparent red among the colours used by Nardon, except small buttons of ruby placed upon little spots of gold-leaf to represent jewels, which were freely sprinkled over the picture.

For flesh a reddish tinge of violet was used. This was done by painting the faces with a strong tint of violet, made from manganese and iron, and then, after this was fired, working over it with opaque white in gradations, so as to let the violet ground show through in the thinner parts. This work was called "grisaille," being the name then employed for white shaded work in painted windows. A thin glaze of violet was sometimes then put over the grisaille.

Metallic gold was lavishly used by Nardon Penicaud, though, owing to the imperfect way in which it was fired, a great deal of it has been rubbed off in the specimens of his work which we now possess; probably he used borax with it, a fatal practice. Not only was this gold painted in on the high lights of the drapery, but it was dotted in stars over the sky, or in curling ornaments or tongues of fire over the backgrounds.

He used red oxide of iron, that is to say, ordinary rouge (crocus martis), to represent blood, and sometimes upon the lips, but he did not employ this rouge otherwise. The principal tone of the colouring is cobalt and turquoise. The effect is most rich and harmonious, though the peculiar purple tone given to the flesh by the violet underground somewhat mars it.

There is an indescribable charm about Nardon's best work, due to the fresh and ingenuous expression of the faces, and the skill with which his simple colours are contrasted and united. The gold also gives delicacy and richness, and as the designs are usually taken from the best work of the great Flemish masters, the composition is generally excellent. His most famous successor was "Jean."

It is not known what relation Jean Penicaud was to Nardon, probably a brother. He is sometimes called Penicaud II. in the catalogues, sometimes Jean Pénicaud III. His style resembled that of Nardon, and he used the same colours. The general tone of his work is no longer blue, as in the case of Nardon, but a more natural combination of various colours tending to a rather excessive use of a brownish yellow, a fault that is still more exaggerated in his successors. In his work transparent grounds for the first time appear, the copper being sometimes covered over with a layer of transparent glass, on which the design is drawn in black and fired, and then covered in parts with grisaille, then with coats of colour, and finally again with grisaille. Jean Penicaud II. used paillons largely—that is to say, he placed gold leaf about the thickness of tissue paper on the enamel, fired it until it adhered, and then placed other coats of transparent coloured enamel over all. This mode of ornamentation had been known for centuries to the makers of glass goblets. Sometimes he shaded the grisaille, not by gradations of thickness, but by line-shading, made with a steel point in the layer of grisaille before firing, which caused the dark ground on which the grisaille had been laid to appear, and gave an effect as of etching.

He occasionally covered the whole plate over with gold leaf, so as to gild it completely. Upon this the design was painted in black, then tints of colour, and finally grisaille over all. There is a fine work of his in this style in the Cluny Museum at Paris. His skies are usually deep blue in the upper part, shading down into turquoise at the horizon, with small clouds or gold stars flecked over them. The same violet tones are used for flesh as in the work of Nardon. Sometimes, but rarely, there has been a little stippled shading to help the effect. The immoderate use of paillon grounds by J. Penicaud II. has often greatly injured the stability of his work. Fortunately, the gold was badly beaten, so as to be in holes in some parts, and thus cause stronger adhesion.

The work of this artist is not well represented in the Louvre Museum, but the museum at Cluny possesses some excellent specimens. At South Kensington there is a splendid series of enamels representing scenes from the life of Christ.

This beautiful work I have the pleasure of being able to show you to-day. Taken as a whole, I should pronounce it the finest enamel in the world. The whole art of enamelling may be learned from it. There is not an artifice which the artist did not know, and the modern revival of the art has only added a few more colours.

I have placed beside this work a little piece executed in the same manner. Of course you see the artistic inferiority, but I want you to observe that the modern colours are in every way comparable with, and even brighter than, the old ones.

Whence let us take courage. If we do not rival and excel the ancients the fault is in us, not in the materials.

During this period, that is to say, the end of the fifteenth century, there seems also to have been executed some of the work known as plique-à-jour. This is done by forming a number of cloisons without any foundation, so as to resemble a sort of grating, into the interstices of which enamel was melted. The effect is that of filigree work, filled up with variously coloured transparent glass. Very few pieces have survived. In the life of Benvenuto Cellini, he relates that Francis I. showed him a specimen, and that he imitated it. There is no difficulty in this work, the method of which will be described hereafter. It is done to a limited extent at present in Russia. But genuine old specimens are exceedingly rare. Work in this style is executed in Geneva and in Sweden.

The progress of enamelling which has been above described carries us well into the sixteenth century. But a great change was at hand. Under the influence of the revival of classicalism, and in the hands of Carpaccio the Bellinis, Botticelli and Leonardo da Vinci, painting assumed the most exquisite forms. The Florentine architects infused the spirit of classical ornament into Lombard and Gothic architecture, so as to produce a new style, of which the Scuola of St. John the Baptist at Venice or the tombs of the Scaligers at Verona are examples. In the hands of Ghiberti, Donatello and Luca della Robbia sculpture and modelling rose to new forms of beauty, while the genius of Michel Angelo crowned the work by his majestic creations.

If the influence of the classical movement had stopped here, it would have been productive of unmixed good, and might have resulted in a new and beautiful style, which would have gone on developing for centuries. Unfortunately, however, the taste for classical learning passed due bounds, and took such a hold upon art as to destroy its vital energies. Classical history or fable almost monopolised the subjects of pictures; classical costume became universal. Madonnas were made to represent goddesses. The dignified angels with prismatic wings of the fifteenth century gave place to infant cupids. If the nude was to be represented, artists could think of nothing better than the Judgment of Paris, or Perseus and Andromeda, or the chaste Lucretia, who was frequently represented as having prepared for death by divesting herself of all her clothing.

In desperate endeavour to give some modern interest to this hackwork it became usual to put the heads of the patrons of arts on the bodies of Æneas, Julius Cæsar or Alexander; and where modern battles were painted the combatants were represented either naked or in the dress of Roman soldiers.

Thus began the reign of pedantry, in which art was admired, not because it gave pleasure or profit to the spectator, but because it afforded an opportunity for the display of classical learning. For what interest could the ordinary mind take in such scenes? Who cares about the birth of Venus, or the rape of Europa, except as a means of displaying beautiful nude figures? How wearisome, even when done by the greatest artists, appears the well-worn "Fame" upon a tomb, with a trumpet and a wreath of laurels, or "Patience" upon one side of a monument smiling at "Grief" upon the other. Such art as this was deficient in soul. It had ceased to draw its inspiration from the social or religious life and feelings of the people. It appealed no longer to the masses, but only to a group of *illuminati*. Its roots were severed from ordinary human pleasures and aspirations, and its death became only a question of time. It died hard, poisoning by its corruption the art of all Europe, and ending with death's-heads and skeletons on tombs, grinning satyrs, stone clouds, empty niches, pot-bellied Pompadour furniture and scrolls of fame with nothing inscribed upon them.

Unfortunately for France, the Renaissance, instead of being allowed to exercise a gradual influence, was introduced suddenly and in its worst form by Francis I. If he had only patronised

Leonardo da Vinci and Benvenuto Cellini, nothing but good would have resulted. As it was, architecture in his time kept clear of the Renaissance influence: but, unfortunately for painting, on his release from captivity he persuaded Rosso and Primaticcio, two pupils of the school of Giulio Romano, to superintend the decoration of Fontainebleau. Both, especially Rosso, were men of more than mere talent; but they brought with them the whole paraphernalia of faded classical allegory. In consequence Dido and Æneas, Diana and Actæon, Venus, Hebe and the kindred tribe of hackneyed goddesses, sprawled upon clouds, over wall and ceiling, in France for 300 years

Rosso and Primaticcio were surrounded by a number of engravers, among whom Etienne de Laune, who engraved patterns for jewellers, was especially followed by enamellers. The engravings of Marc Antonio, who made bad copperplates from Raphael's designs, were also much used.

The most remarkable of the enamellers who adopted the new style was Leonard Limousin—that is to say, "Leonard the Limousin," possibly so called to distinguish him from Leonard Penicaud, or from Leonard Tirney, a distinguished engraver of that epoch. Leonard possessed real talent, and in order to retain his services Francis I. gave him the post of one of his valets, and assigned him a small salary. He worked in every conceivable way. Sometimes he put transparent ground on the copper, sometimes opaque. He rarely used a black ground except for portraits, and the black outlines in his enamels are usually painted with a brush. Like his predecessors, he had a limited number of colours. In the high lights, instead of putting white grisaille work under the colour he put it upon the top, which gives a chalky appearance. One is bound to admire many points in his drawing, and considered simply as an artist he was the greatest enameller of his day. But his work is often very bad in colour, and frequently exhibits the absurdities and trivialities of the Italian school without its merits. Perhaps one of the reasons why his enamels appear tedious is the constant recurrence of muscular Roman centurions in yellow and blue, with helmets, cuirasses, tunics, bare legs and sandals. He also caught some of the worst tricks of posing and posturing, and impossible undulations of the body, which distinguished the Italian decline.

There is, however, one department in which he easily occupies by far the highest position, namely, portraiture. His portraits were painted from drawings or pictures of excellent character. These he sometimes copied on a background of black enamel. The face is put in with thick white grisaille over a coat of black, and painted up with fine stippled opaque-red colour, made from rouge. The clothes are generally shining black, touched with gold, or else with unglazed black. The background is almost invariably of cobalt blue, laid over a coat of white. The white enamel used to represent the skin is of the colour and appearance of egg-shell, with a low polish. The general tone is whiter than is natural. The eyes are usually scratched out of a dark background, but the mouth and other lines and wrinkles are painted upon the white. The clothes are often shaded in lines scratched through to a dark underground. The delicate white appearance of the skin gives an air of great distinction to the portraits, and harmonises with the black and blue of the dress and background, which fuller colouring would have failed to do. Sometimes a high colour is given to the cheeks with oxide of iron, the tint being dabbed on with a fitch instead of being stippled. The hair of women is almost invariably auburn, inclining to red, which, however, is accounted for by the fact that the Court ladies of the period wore wigs of this colour over their natural hair.

These portraits are suggestive in the highest degree, and this is a great merit. For with enamels it is impossible to attempt actual imitation of nature. The subject can only be suggested, not reproduced. And therefore, in an art in which so much must of necessity be left to the imagination, we most highly admire the skill of the man who employs the means at his disposal, not in a futile attempt to reproduce nature, but in an effort to give rise to ideas.

There were several successors both to the Penicauds and to Limousin, and a cloud of inferior imitators, but their work calls for no special mention. It was chiefly in grisaille upon black grounds, sometimes slightly tinted, and quite wanting in the noble colour of their predecessors. When colour was used it was ill-arranged and glaring, and usually accompanied by an immoderate use of paillon.

Of these Pierre Raimond occupies the first place. He seems to have possessed a sort of factory in which all sorts of work, both bad and good, were marked with his initials. He turned out sets of plates, cups, salt-cellars and candlesticks. The grisaille work is very beautiful when it comes from his own hand. He was skilful in the use of reds and greens, and his border decorations are usually very good.

In the seventeenth century the art of enamelling underwent a distinct decline. The Laudin family introduced the use of white grounds, with pictures painted on them, in horrible drawing, and gaudy red and yellow, like painted earthenware. Raised work began to be used by mixing china-clay with the enamel and putting it on in lumps.

The atmosphere surrounding the Court of Louis XIV. was not congenial to the higher forms of art. The king exercised the right of dictating to his workmen, and where Francis I. had been content to receive instruction, Louis XIV. covered the plans of his architects with his own corrections. As a consequence every courtier claimed to be a man of taste, and art continued to decline until towards the end of the eighteenth century.

In the year 1730 the art of making porcelain was discovered in Europe, and this invention had considerable influence on enamelling. Unfortunately the first efforts of the china-makers were directed to imitating the costly Chinese tea-services, which were the pride of their possessors. The unhappy tendency produced by the desire to rival, if not to forge the art of the Chinese has continued to our own day, and greatly vitiated the design of modern porcelain.

The salon art of the eighteenth century is not altogether devoid of artistic merit. Considerable skill is shown in the design, and the drawing is often very delicate; but it was pretty art, not great art. It was endurable when executed by artists, but it became wretched when it fell into the hands of hack workmen, and when printed designs were substituted for hand-work. This led to its abandonment. The factories at Chelsea, Battersea and Bow were removed from London, and enamel upon metal ceased to be practised. And it was no great pity, for the noble art had now been completely degraded, and there remained only one more depth to which it could sink, which was attained when the mode of applying it to iron was discovered, and the walls of every railway station were covered with detestable enamelled advertisements

There is, however, one department of enamel painting which is not practised at all in England now, or at all events only to a slight extent, and which is well worthy of revival. I mean the art of miniature painting upon enamel. The ground-work is usually a thin plate of gold, which is preferable to copper as not being likely to stain the enamel, and bearing the heat better. The work is executed on a white ground with fine miniature brushes, and colours similar to those prepared for painters upon porcelain.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE usual monthly meeting of this Society was held in their library at the Museum, Queen Street, on Monday evening, the Hon. John Abercromby, vice-president, in the chair. In the first paper, Mr. F. R. Coles, assistant keeper of the museum, gave a report on stone circles in Kincardineshire and Aberdeenshire, with measured plans and drawings, obtained under the Gunning Fellowship. The map of the district visited from Banchory as a centre showed nine stone circles south and nine north of the Dee, all of which were carefully surveyed and described in detail. Of these eighteen stone circles eleven were of the type peculiar to the north-eastern district of Scotland, having the space between two of the pillar-stones filled by a huge block placed on edge or on its longest side on the line between the pillars. Some of these recumbent stones are of enormous size, the largest met with in the present survey being 17 feet 4 inches in length by 4 feet 6 inches in breadth and 2 feet 3 inches in thickness. After describing each of the circles separately and showing ground-plans and drawings of their most characteristic features, he gave a brief statement of the results of the survey, which showed the existence of three different types of circles in the district surveyed—first, the type with upright pillar-stones only; second, the type comprising the circle of pillar-stones, with one or more stone settings, more or less concentric, in the interior; and, third, the type characterised by the most striking feature of the recumbent stone between two of the pillars, which last is the type of the district. The position in the circle of the recumbent stone is not strictly constant, varying from a point south-east of the centre to south and south-west. In one case it stands well within the circumference; in most other cases, where it has not been disturbed, it is in line with the other pillars. The pillar-stones usually increase in height towards the recumbent stone, the four stones nearest to it being usually the largest and most prominent. So far as there is direct evidence of their purpose, in every case in which systematic excavation has revealed a purpose they have been found to be burial-places of the Bronze Age, and any other purpose has yet to be proved. But a much more extended survey and investigation is requisite before final conclusions on these and other interesting questions relating to stone circles can be reached. In the second paper Mr. A. G. Reid, F.S.A.Scot., Auchterarder, gave a notice of a document in his possession bearing the superscription of King Charles II., and dated at Breda, May 22, 1650, which appears to be unprinted, and is of considerable historical interest. It is entitled "Instructions for Sir William Fleming," and states that His Majesty, having heard a report of a fight between Lieutenant-General David Lesley and the Marquis of Montrose, in which the forces of the latter were totally routed, Sir William is instructed to carefully conceal the letter directed by His Majesty to the Committee of Estates if this report prove true, but to deliver it in the event of the news proving to be untrue. It is known that a letter was actually delivered to the Parliament on May 25, and it is difficult to reconcile these secret instructions with those already known, as the tenor of the two sets appears contradictory, but the letter now discovered shows that Sir William Fleming disobeyed his ultimate orders and communicated the letter to Parliament, instead of concealing it, probably with the view of conciliating the party in power. The third paper, by Mr. David Macritchie, F.S.A., Scot., gave a description of an earth house at Pitcur, in Forfarshire, which is larger and more varied in plan than most of its kind in Scotland. It consists of a curved subterranean gallery 190 feet in length, with a subsidiary gallery curving in the reverse direction of 60 feet in length. The width throughout varies from about 5 feet to as much as 10 feet; the roof is mostly gone, but remains over about 50 feet of one end of the gallery, which is between 5 and 6 feet in height. The objects found in it, like those from a good many others, show that it was in occupation subsequent to the Roman invasion of Britain. In the last paper, Mr. Thomas Wallace, F.S.A.Scot., Inverness, described some cists with unburnt burials found on the farm of Moraytown, in the parish of Dalcross, and exhibited a stone axe of Caribbean type in the possession of the farmer, Mr. Macdonald, which was said to have been found on Culbin Sands, but probably came from America.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A GENERAL meeting of the Institute was held last Monday. Mr. Wm. Emerson presided.

The decease was announced of Francis Thomas Dollman, retired Fellow; Richard Reynolds Rowe and William Wilkinson Wardell, Fellows; and Paul Sédille, Hon.Corr.M.

The Hon. Secretary drew attention to a number of works, laid upon the table, which the Library had recently acquired, some by donation and others by purchase, and, having specified the more noteworthy among them, moved a vote of thanks to the donors, which was carried by acclamation.

The following members attending for the first time since their election were formally admitted, viz., the Rev. John William Robbins, M.A., hon. Associate, and Robert John Angel, Associate, Grissell Prizeman 1891.

The following candidates for membership were elected by show of hands:—As Fellows (4)—Herbert Baker (A. 1890, Ashpitel Prizeman 1889), Cape Town; Frank Gatley Biggs, Blackburn; John Murray (A. 1892); Harry Vernon Wolstenholme, Blackburn.

The meeting discussed various questions connected with the position of Associates, especially in respect to representations made to the Council by a deputation from a committee of Associates. The President announced that the suggestions which had been received would be considered by the Council, who would at an early date submit proposals resulting therefrom to the general body.

SEATON DELAVAL HALL.

THE Berwickshire Naturalists' Club held its last meeting at Seaton Delaval. The day's doings, there and elsewhere in the neighbourhood, will be described in the proper quarter, but in the meantime, says Sir George Douglas, Bart., the following impressions of the principal object visited are offered to those who, being fond of making similar expeditions on their own account, by the aid of the bicycle or otherwise, may like to hear of some fresh object for a ride. For if one may judge by private experience, the fame of Seaton Delaval Hall has not yet penetrated so far as it deserves. The first object of interest, then, to be examined in connection with the above is the chapel of the Delaval family. And that this happens to be so is artistically fitting, for that small but massively constructed building of the Norman period, with its two grand rounded arches surmounted by fine zigzag mouldings, with its pieces of old armour, banners and recumbent sepulchral effigies, constitutes just what is necessary to start the train of thought required. And this train of thought or of association is that which relates to noble blood and long descent, and glory passed away. For if one would look upon a speaking memorial of the humbled pride of life, one could not do better than visit Seaton

A most stately flight of steps invites by easy access to the hall—a flight which seems of the same kin as those which at Fontainebleau or St. Peter's have been trodden by illustrious feet, and have figured in the foreground of princely pageants. And from these steps there rises a proud portico, its roof borne up by lofty columns of the Ionic, or perhaps Corinthian order. But, oh! genius of dramatic contrast. The many noble windows seen athwart and round these columns are glassless and lack sashes, standing open, unobstructed to the airs and birds of heaven. And, looking closer, one observes in the masonwork of their frames that here and there a stone is displaced or has fallen.

Is it, then, not a palace but a ruin which confronts us? I can hardly answer that question. But a more effective drama or conflict of principles in dressed stones and mortar it has rarely fallen to me to behold. It is this: on the one hand the bravado, the insolence of ostentation of that teeming and triumphant mind which wrote "The Relapse," created Amanda, designed Blenheim Palace and Castle Howard, and on the other the insidious irony of decay, in association with a negligence so contemptuous that since a great fire early in the century it has never stooped to so much as protect an unglazed window with a board. And yet, if we but pass round to the other side of the edifice we shall find its outstretched wings intact and quite possibly occupied. And it is on this side that, glancing upwards, we catch sight of the White Lady where she stands at her post by a window, for ever mournfully expectant. But it is explained that the pallid, nun-like phantom is not really one whose eyes are never dried for weeping over all that has been, or weary of watching for the day which shall set all things right. Nothing of the kind. Her airy body has no real existence more than is formed by the cross lights of confronting windows.

It is, however, in the ruinous portion of the house that our interest lies. Enter it, and you find yourself within a hall which, rising the whole height of the building, and being adorned with statues—nude, antique and now dilapidated and defaced—serves to exhibit the imposing grandeur, without elegance, of Vanbrugh's design. Yet, judged from the point of view of architectural proportion, this mansion is perhaps his masterpiece. More truly Classic, because simpler, than the hall is the great kitchen, throughout which the Renaissance style of the building is faithfully continued. High in its walls a balcony, or loggia, with railing of worked iron, catches the eye, and is said to have formed the coign of vantage occupied by the Lady Delaval when issuing her orders for the day's dinner, or perhaps rating her maids. And surely commonplace matters, spoken from so commanding a position, would gain something of unwonted dignity. The Mahogany-room is a smallish chamber, tastefully panelled with that wood, which fortunately escaped the fire.

We pass out into the sunshine of a breezy garden or pleasaunce, where stocks and gaily-coloured asters flourish to the point of breaking all bounds. And thence the eye travels northward, far away over low-lying flats, where tall chimneys and other crude industrial details are softened to fairness by distance and the atmosphere.

GENERAL.

M. Alfred Normand has been selected as chairman of the committee of the five academies constituting the French Institute for the year 1900.

Lord James of Hereford will preside at a meeting of the Indian section of the Society of Arts on Thursday afternoon, January 18, when Sir William Lee-Warner is to read a paper on "Our Work in India in the Nineteenth Century." The meeting will be held at the Imperial Institute and will be open to Fellows of the Institute as well as members of the Society of Arts.

Mr. F. M. Laing, a licensed victualler, has offered to give 20,000*l.* towards the erection of an art gallery in Newcastle-on-Tyne if 8,000*l.* will be subscribed for furnishing and equipment.

A Meeting has been held in Dublin when it was resolved that a committee should be formed to open negotiations with eminent sculptors and obtain designs and estimates for the Parnell Memorial, the committee to consist of Count Plunket, Dr. J. E. Kenny, Mr. J. E. Redmond, M.P., Mr. T. Baker and Mr. Blake.

The Sydney Public Works Department have decided that in the additions to the Parramatta Gaol the walls will be built on the Monier system of 3-inch thick compo, with a grille in the middle. This method has been adopted with the view of getting a cheaper and stronger wall at a great saving of space over ordinary brick or stone-work.

A Technical Institute is to be erected in Portsmouth on a site adjoining the Town Hall.

The Annual Meeting of the Municipal Officers' Association will be held in the Guildhall, E.C., on the 22nd inst., when Mr. Sidney Webb will address the members on "The Functions of a Municipal Civil Service."

A Paper on "Temples and Temple Builders" was read before the Architectural Association of Ireland on Tuesday by Mr. M. Glover.

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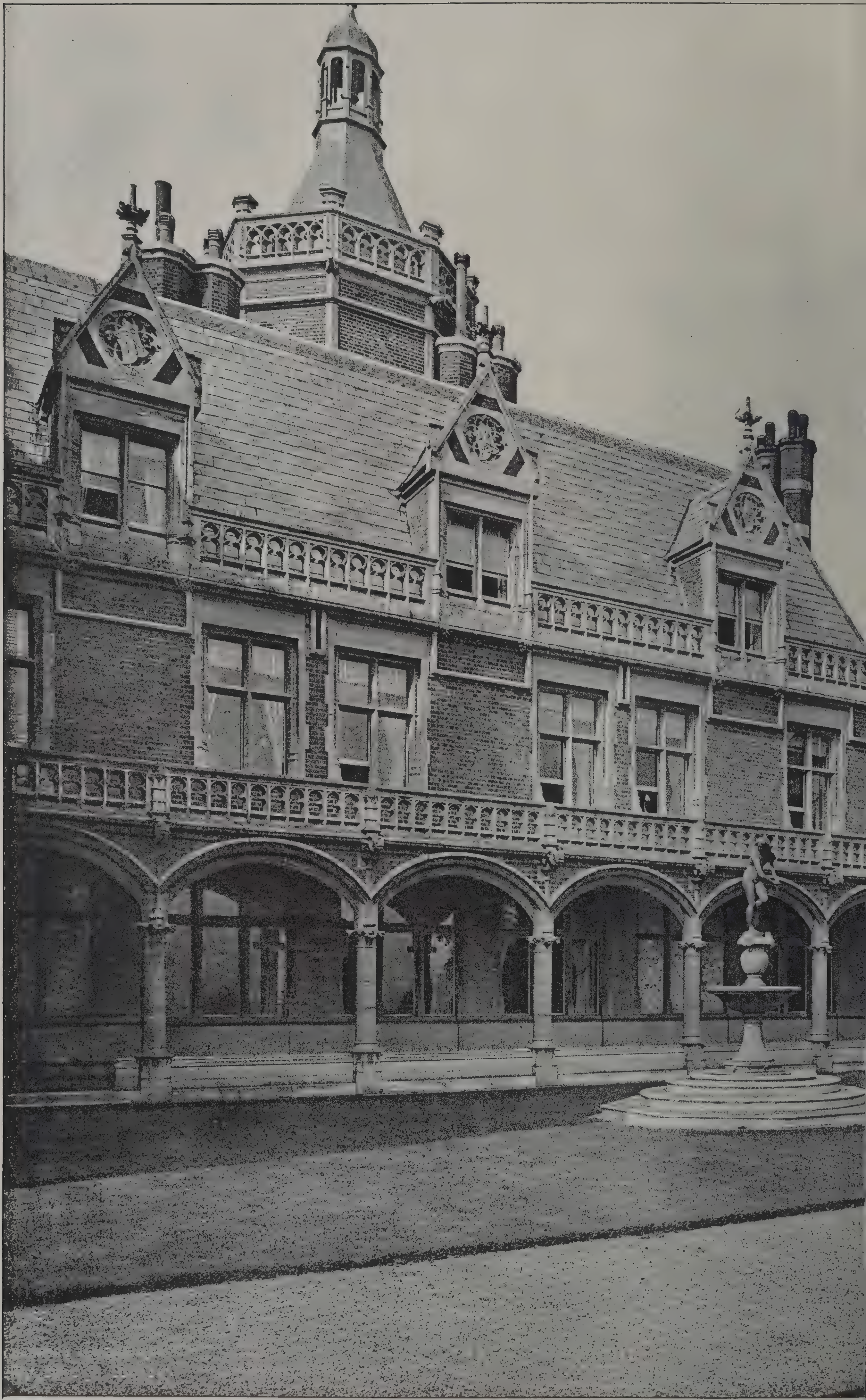

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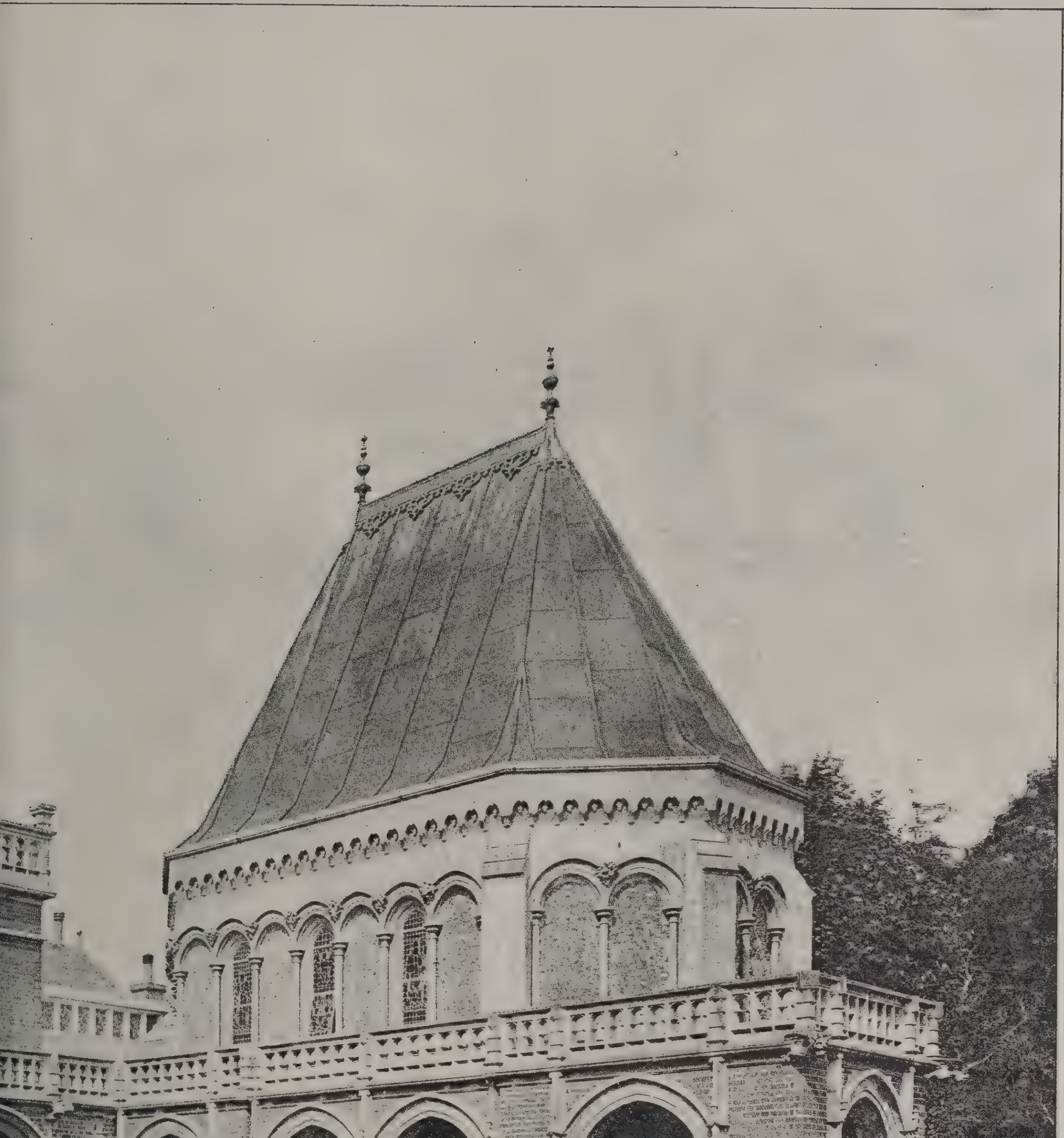

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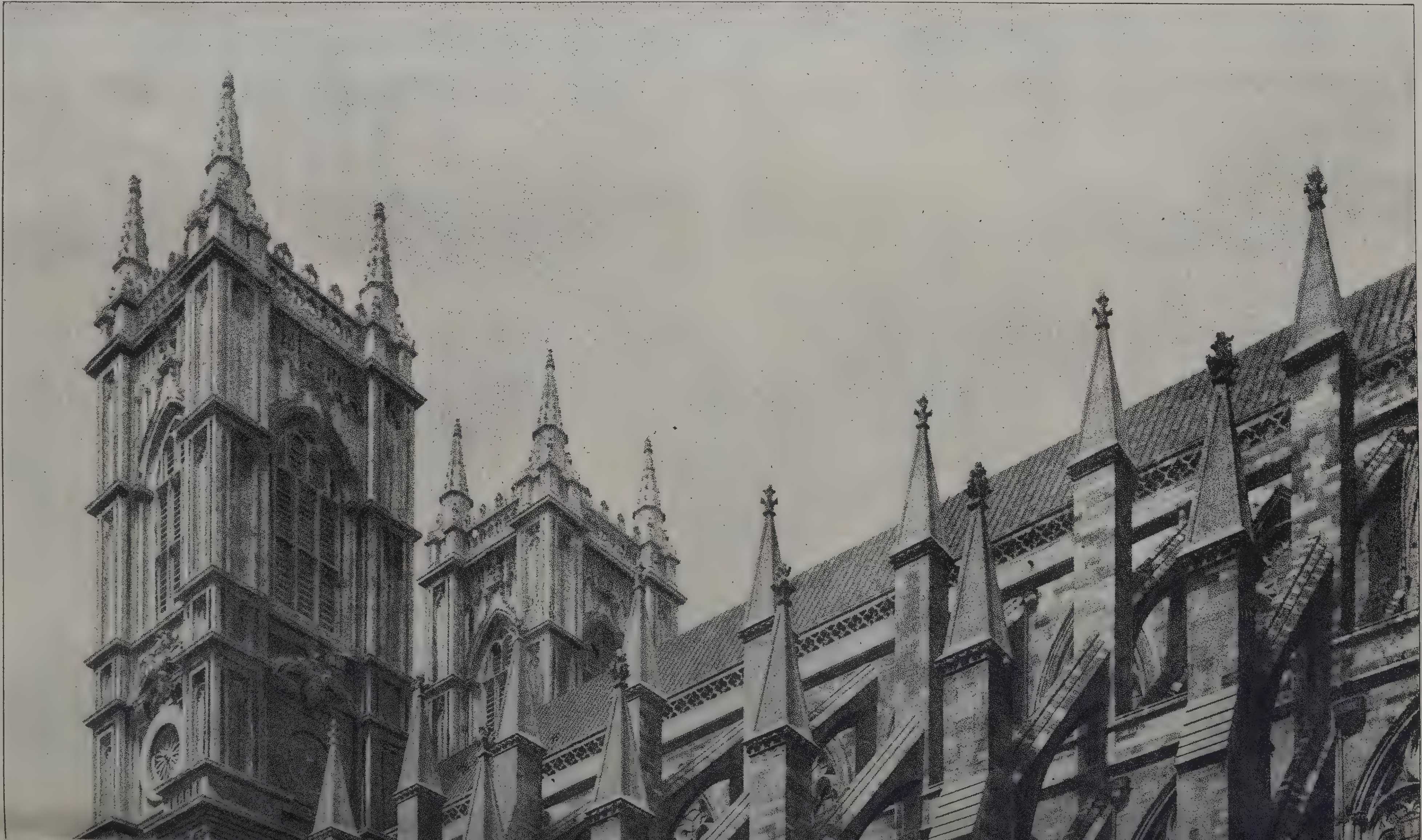

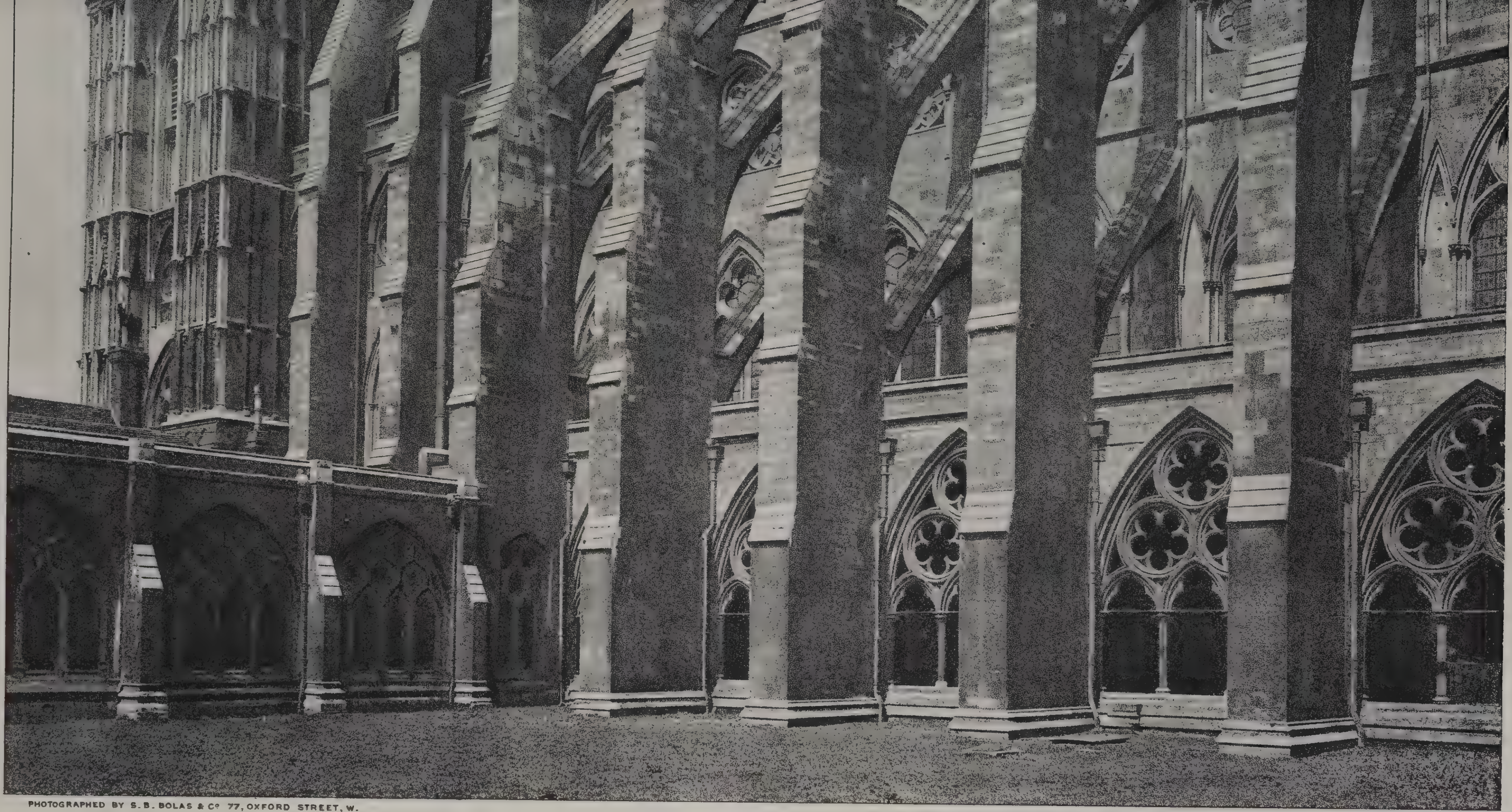

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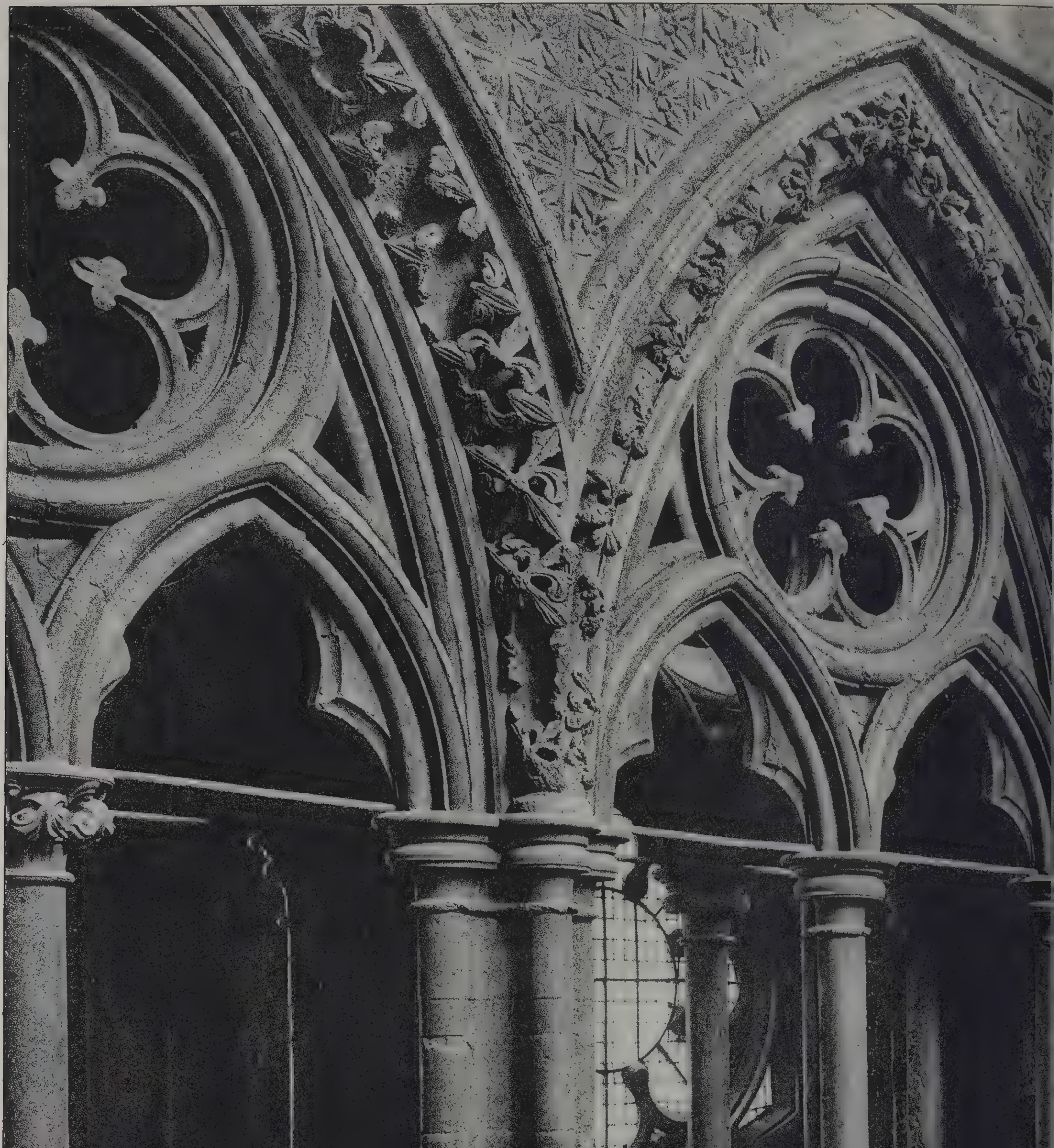

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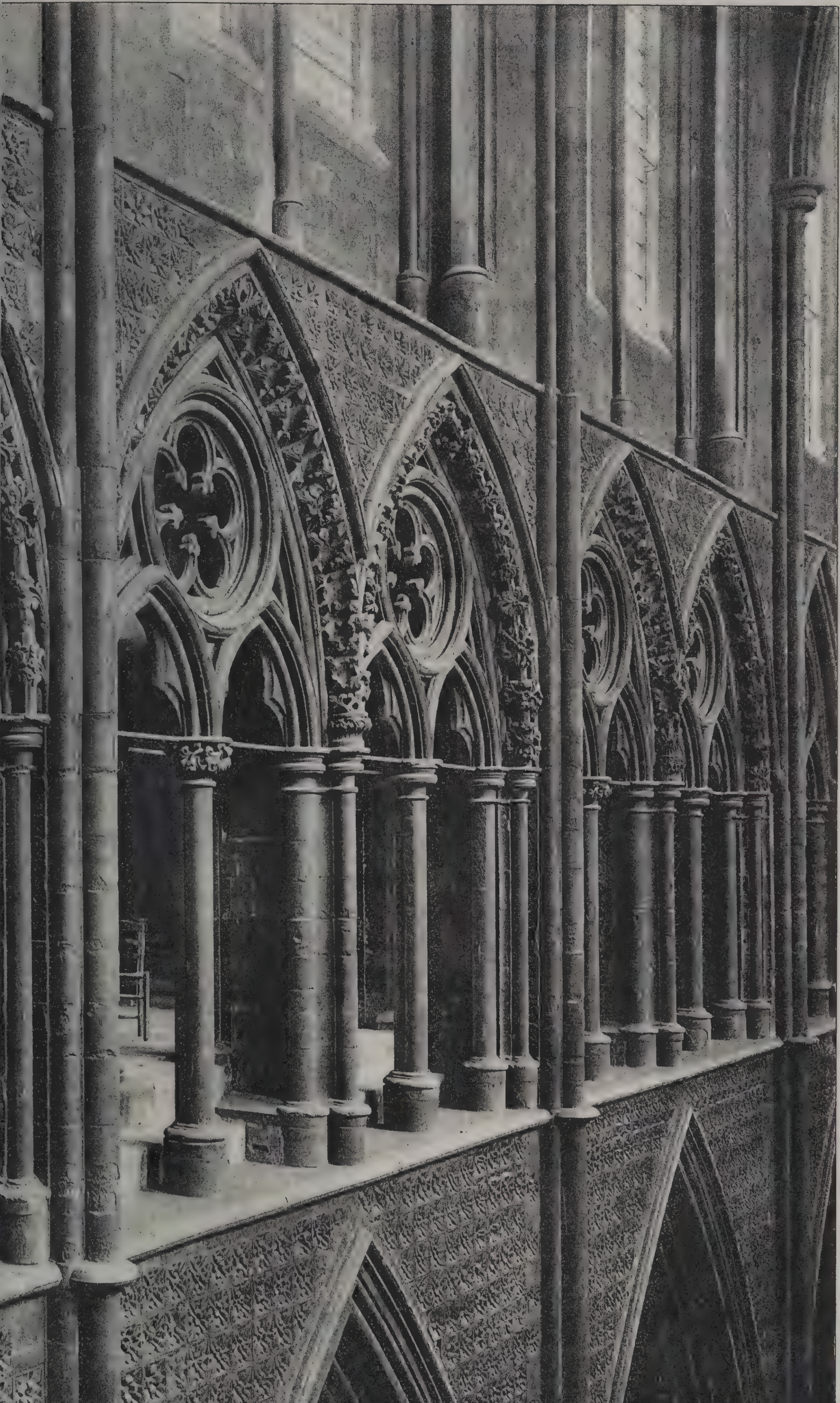

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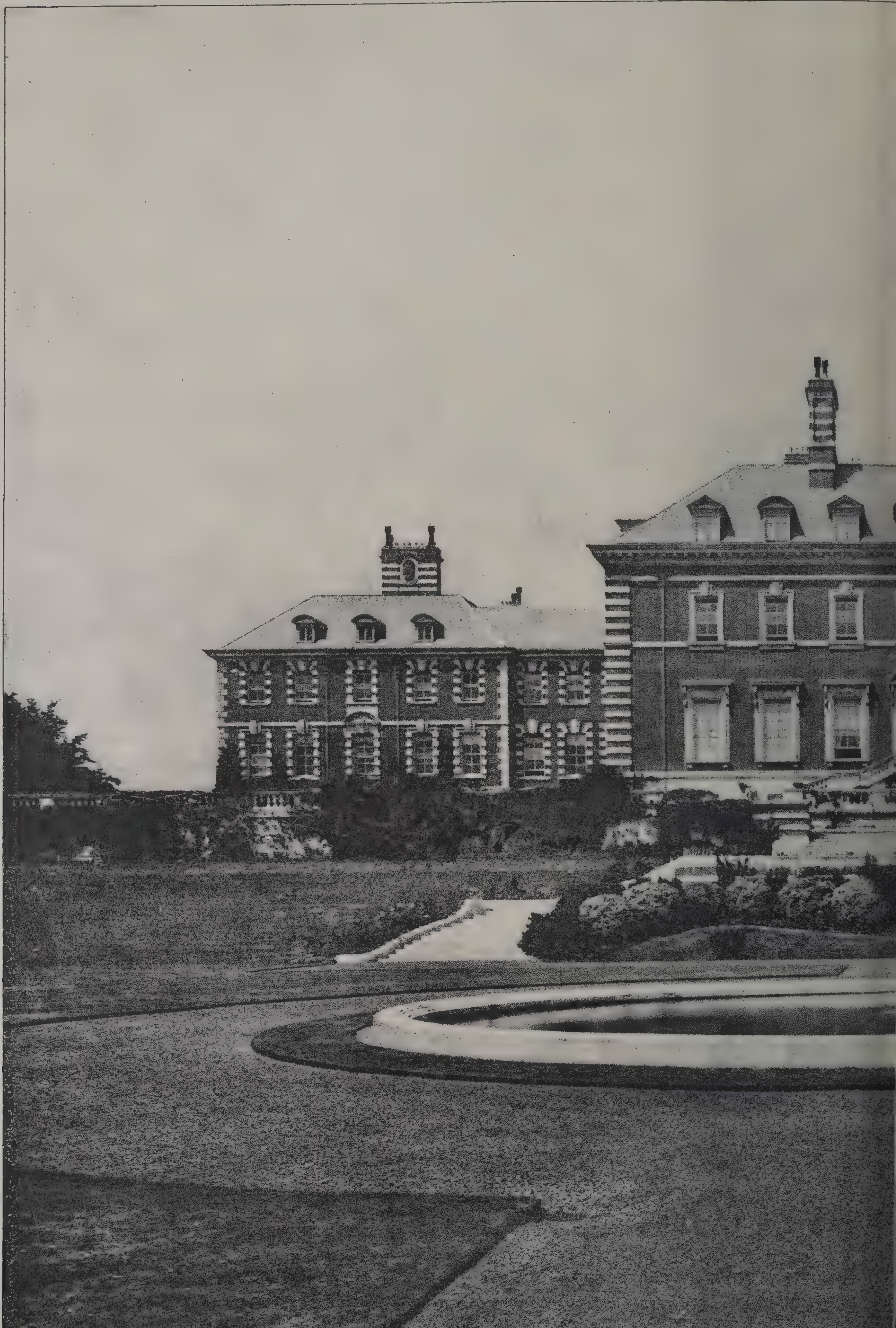

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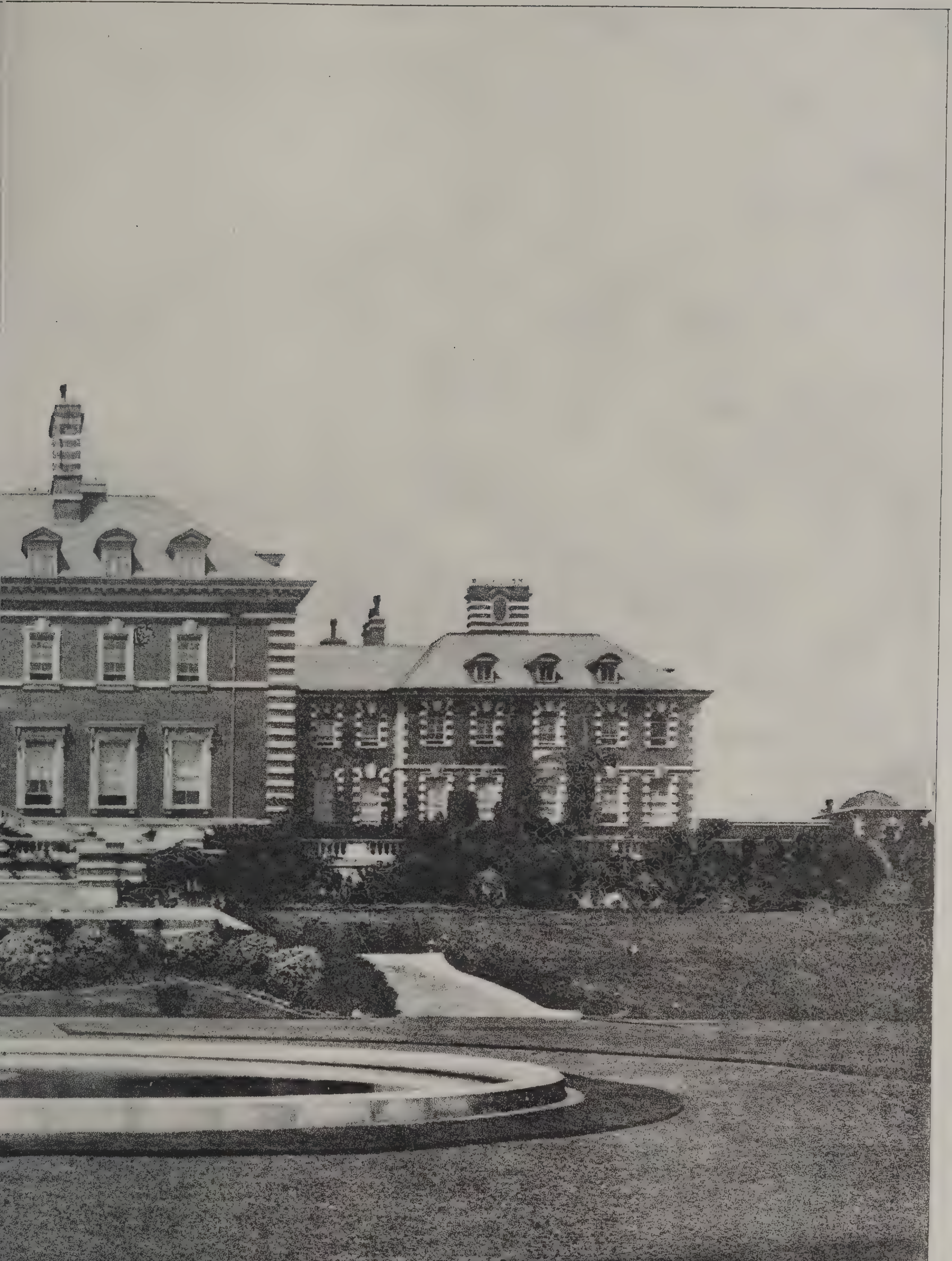

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DORSET.

, Architect

The Architect.

THE WEEK.

The judgment of the Court of Appeal in Scott *v.* Carritt will have an effect on schemes for erecting buildings on the forecourts of houses. We have reported the case in its various stages. It will be remembered that it related to an objection by the London County Council to sanction the rebuilding of two shops in front of houses in Pentonville Road. The gardens are rather long, for under the Act 7 George IV. it is illegal to erect a building within 50 feet of the side of the road. However, in 1858, without permission, a public-house of one storey was erected in one of the gardens, and the Metropolitan Board of Works granted permission to erect a shop in the next garden. The owner wished to obtain sanction to rebuild the premises at a greater height, and applied to the County Council for sanction, but it was refused on the ground that the proposed premises would extend beyond the general line of frontage in Pentonville Road. A second application was made, but it was also refused. The owner then insisted on his right, as the premises came under section 43 of the Act 1894, which relates to domestic buildings on old sites, and as the land had been lawfully occupied by buildings, consequently the superintending architect did not possess the power to certify the building line. In the Police Court and in the Divisional Court decisions were given in favour of the County Council, and the case therefore came before the Court of Appeal. Lord Justice A. L. Smith said it had been declared that the general line of building corresponded with the front of the houses standing back from the road. It could not be said that the ground was lawfully occupied, inasmuch as there was no authority for erecting the public-house. The adjoining forecourt was lawfully occupied, but it was on the condition that the building should be only a low one-storey building. Without the consent of the County Council the owner could not build on either court, and therefore the appeal must be dismissed. The other judges gave judgment to the same effect. The result is satisfactory, for in many places to erect high buildings on a forecourt would be to diminish the value of all the adjoining houses. The Pentonville gardens or forecourts are not beautiful objects, but to utilise them for buildings of similar height to those which line the road would be a measure which would not be conducive to sanitation.

The International Congress of the Society for Encouraging Public Art will be opened in the Hôtel de Ville, Paris, on August 8. There will be a special exhibition in connection with the Congress. It will consist of three sections. In the historical section various illustrations will be shown of some of the most interesting examples of ancient art which have been preserved in European cities, as well as of buildings or other objects which have been mutilated or sacrificed to modern ideas. In the technical section there will be illustrations of works which aid in expressing the amenity of cities, such as public monuments, statues, fountains, clocks, gates, plantations, gardens, as well as buildings; also successful examples of conservation and restoration. In the administrative section will be deposited copies of the laws and regulations which have been promulgated in various cities in order to protect their artistic character. There is no city in which more care is taken to uphold the beauty of streets and public places than Paris, and the meeting in August next is likely to excite more interest than the meeting in Brussels, where the Society was inaugurated.

M. Alfred Picard, the chief commissioner for the Paris Exhibition of 1900, is sanguine about the completion of the buildings at an early date. The Palais des Beaux-Arts, or rather the two, may be considered as ready to receive the great staircases, and then they will be practically completed. The committee of selection can begin operations in a very short time. There is only one wing of the Palace of National Manufactures which remains in the builders' hands. The pavilion devoted to ceramics and other French industries could be occupied by the exhibitors at once. The Gallery of Machines is also ready, and in the Champ de Mars the only works which are behind are the Château d'Eau and the Salle des Fêtes. If the expectations of M. Picard can be realised, it will be most creditable to his energy. It was no easy task amidst so much that was depressing, and which created a belief that the Exhibition would never be held, to inspire all who were engaged in the operations with the sense of the duty of carrying out what had been undertaken.

The conditions of the competition for the Federal Building in Baltimore contain one clause of a rather novel character. The successful competitor is to pay 500 dols. as a consolation prize to each of his less fortunate rivals. It was also announced that five judges were to be appointed, including the supervising architect of the United States Government. The four non-official judges were Messrs. Post, McKin, Carrère and Cooke, all architects of renown in America. When they read the conditions they declined to act, on the ground that it was not equitable to withdraw a large part of his percentage from the successful competitor. It appears, however, there will be no difficulty in finding judges to take their places and to approve of the arrangement. The Treasury officials say the proposal was no more than a suggestion made in the interest of justice and good feeling. American law, it appears, does not permit the Government to offer compensation to unsuccessful competitors, and therefore it was considered that the winner should have the high privilege to take the part desired by a beneficent Government. Moreover, it is said that the gift would not be unfair, because the architect who will have the good luck to carry out the work will be relieved from some expenses which are usual in ordinary practice. The selected architect will not have to make copies of plans and specifications, and the contracts are to be let without his interference. The value of the saving to him will be, by official calculation, about $\frac{3}{8}$ per cent., which in the Baltimore case will work out to 5,000 dols. The American example will, we suppose, be soon followed in this country. Already competitions are gone through in England on most economical terms, but American ingenuity has revealed that the expenses, low as they are, can be cut down to zero.

The town of Orvieto is not large, but its cathedral is famous not only as a work of architecture but also for its sculpture in marble and bronze mosaics, and its frescoes, especially those by Luca Signorelli. Opposite the cathedral is a house known as the Opera del Duomo, in which can be seen some ancient designs for the façade of the cathedral and drawings by Signorelli and others. In another of the houses the Count Faina collected a great many Etruscan remains, and there were other remains of a similar kind in the Municipal Museum. Both collections have been united and are now to be seen in the Palazzo dei Papi, for in the Middle Ages the Popes were often glad to find a shelter in Orvieto. The palace has been lately restored under the direction of Signor Manchini, who is an enthusiast for Etruscan art. The remains which were found in the tombs about Orvieto are formed into several groups, and many examples are to be seen of the excellent metal-work for which the ancient Volsini were celebrated. In addition to the Etruscan work there are several works from Greece which were imported, and more interesting still, perhaps, are the local imitations of the Greek models. The museum is one of the most interesting in existence for students of Etruscan art, but it cannot be said, unfortunately, that it clears the difficulty about the origin of the people or explains the cause of their marvellous superiority over the Romans in the matter of art.

M. Sortais, a young French architect who has not long returned from the Villa Médicis, has been selected by M. Rodin, the sculptor, to design the building which is to contain his statues and reliefs during the special exhibition. The site is at the end of the Rue Jean Goujon, in the Champs-Elysées. Steel will be largely used in the construction.

ARCHBISHOP LAUD AND ENGLISH CATHEDRALS.

(By a Correspondent.)

ONE of the advantages of a collection of portraits such as we now can see at the Royal Academy is the opportunity it affords to reconsider the characters of the men of a past age. Of late years there has been much reviewing of the judgments which were passed on English worthies by their contemporaries and by succeeding historians. It is usually found that in these modern self-constituted courts of appeal a great many of the earlier judgments have to be set aside. One case which certainly merits reconsideration is that of Archbishop Laud. That he was not popular even among his contemporaries who belonged to the same party is now evident. Bishop Burnet says he was a learned, a sincere and zealous man, regular in his own life, and humble in his private deportment, but was hot and indiscreet, "eagerly pursuing some matters which were either very inconsiderate or mischievous, such as setting the communion table by the east wall of churches, bowing to it and calling it the altar, with some other things which were of no value." To Burnet ceremonial acts were trifles, but yet he says all the zeal and heat of that time against Laud were laid out on them. In other words, the archbishop's ritualism caused more offence than his severity in the Star Chamber and the High Commission Court. Macaulay admits this fact when he says :—"His passion for ceremonies, his reverence for holidays, vigils and sacred places, his ill-concealed dislike of the marriage of ecclesiastics, the ardent and not altogether disinterested zeal with which he asserted the claims of the clergy to the reverence of the laity, would have made him an object of aversion to the Puritans, even if he had used only legal and gentle means for the attainment of his ends."

It is well, however, to remember that much of what passed for Puritanism in those unhappy days was simply neglect on the part both of clergy and laymen, and was offered as an excuse for indifference to churches and to the manner of conducting services in them. Laud, when he was appointed to the archbishopric of Canterbury in 1633, resolved to endeavour to insure that cathedrals and other churches should be kept in a becoming state, and that worship and the general administration should no longer be conducted with laxity. From the articles of his visitation for the cathedral of Canterbury we gain an insight into practices which were common at the time. Among other questions he proposed were whether the choir was sufficiently furnished with able singers, and whether the daily services were according to the Book of Common Prayer, whether seemly garments were worn by all who officiated, whether the appointed sermons were delivered, whether the muniments were safely kept, whether the choristers were well ordered and instructed. Then comes an important question which has most interest for us, viz. whether the cathedral church be sufficiently repaired in the body, chancel, aisles and other parts, and by whose default the building is unrepaired? It was also asked, as part of the same articles, whether the houses and edifices belonging to the dean, prebendaries and other dignitaries were kept in sufficient and good repair as required by the statute, and were used as they ought to be, and whether the churchyard was kept in a decent manner without any profanation. Afterwards it was inquired what new buildings were within the precincts, what lay dwellers, whether the church or close was used as a private thoroughfare, and what postern doors were made to private houses. There is nothing tyrannical in the inquiry of the archbishop. It is such as would naturally be required from a careful overseer who was anxious that the valuable property of which, at least nominally, he had the charge, should be upheld in a manner that would make it useful to future generations.

The answers of the dean and prebendaries suggest there was a great deal of neglect in connection with Canterbury Cathedral. They naturally endeavoured to make everything appear in the best light. But when we read that "the muniments and evidences of this church which are come to our hands are some of them kept in such manner as is required by our statutes, and the rest according to custom, as we are informed, though the prebendaries think that they are fit to be altered," it is easy to read between the lines, and to come to the conclusion that the archives of the cathedral were not preserved as if they were considered of importance.

Concerning the buildings they say "the cathedral church, with all parts of it, are in good repair save Arundel steeple, which we have been this year about and are now perfecting." They confessed that some old buildings, part of the dean's house, with some prebendaries and preachers' houses were not in the state of repair the statute required. It is also said that the houses were not used as they ought to be, and that some of them had been leased and let to laymen. The so-called churchyard was profaned, and was made a fair green four times in the year. A great many houses were allowed to be erected within the precincts of the cathedral, and some were used evidently as places of amusement during the fair and some as malt-houses. One house was converted into a stable; all the houses apparently were in the hands of laymen; there were enclosures—that is to say, gardens were taken out of the churchyard and let to various people. The close was then a thoroughfare, but credit was taken that the cathedral was not used as one. Some of the private houses, it was said, had posterns, and some large windows through which the occupants came to church. Not only several of the prebendaries were not residents, but the porters, imitating their superiors, neglected their duties. Would anyone now say that the officials of Canterbury Cathedral acted in a manner that was in keeping with their responsibilities as custodians of national property? If they were indifferent to their duties and allowed the cathedral property to be encroached upon, surely the man who at much risk to himself endeavoured to begin a reform is deserving of gratitude. We have only noticed the neglect of material things, but there were other offences which, in an ecclesiastical sense, were more grievous.

At Salisbury Archbishop Laud was no less anxious for information. But as before, we must confine ourselves mainly to the buildings. He asked whether there was care for the due repairing of the cathedral church, chancel, aisles, chapels and edifices belonging thereto, with stone, timber, glass, lead and iron, and if there be any default, by whom it was and who ought to repair it. Similar questions were asked concerning the residences for the cathedral clergy, and what new buildings had been erected within the precincts, what lay dwellers were to be found there and what enclosures or encroachments had taken place. The reply about the fabric was that the chapter found no fault in the building with the exception that the pavements of the church and cloisters were somewhat defective, and some other small defects which were to be repaired out of the revenue. It was found that houses were inhabited by lay persons, and that of late years small additions had been granted out of the churchyard. The chapter point out that the cathedral was much pestered by the movable seats which were recently erected, and which occupied too much room, and the noise made in occupying them troubled the preachers. The fixed seats were said to be set up too far out in the body of the church; there was no unity of form amongst them, "by all which the beauty of the church is much blemished." The chancellor informed the archbishop that there was great neglect on the part of most of the canons in coming to morning and evening prayer. He also stated that there were no copes in the cathedral, for most of them were sold and the rest were turned into pulpit-cloths or cushions. There was an ancient ordinance in Salisbury Cathedral that every dignitary on ordination should pay a sum of money for the maintenance of copes, but about 1562 the bishop, dean and chapter decided that the cope money should be applied to the fabric revenue. It was also reported that in most of the parishes in Wiltshire, Dorsetshire and other western parts of the diocese it was the custom to elect "a Puritan and an honest man" as churchwarden, with the result that the Puritan always crossed the other in repairs and adorning the church.

The dean and chapter of Exeter report that the cathedral church was then sufficiently repaired, for they had expended on materials about 800*l*., and as money came in they proposed further to adorn the building. The churchyard was said to be grossly profaned, and was so crowded that "many times the dead carcases are digged up before they be quite consumed," but the cathedral authorities were unable to reform the abuse. Two of the lay vicars declare that the dean and chapter have granted away by lease most of the houses which formerly belonged to the prebendaries. Another circumstance was reported which to Laud must have appeared evidence of the aggressive spirit of the laity. Upon the city wall near the palace was an ancient castle, which in Mediæval days was used for the imprisonment of clerics. But the corporation of the city against the protest of the bishop employed workmen to repair the battlements, with the intention of keeping the building. Laud could only advise them to take the best advice on the subject and send their account to him. At Wells the archbishop was informed that the glazing of the windows of the cathedral was defective, but the master of the fabric was engaged on repairs. In this case it is quite evident that Laud's inquiry had moved the dean and chapter to more energy.

The cathedral of Bristol must have been then in an unsatisfactory state, for the dean and chapter declared that the building had been much neglected by their predecessors. Much expense was consequently cast upon the existing authorities, and they considered they had brought the chancel, the body of the church and the aisles into good repair. One of the prebendaries' houses had been utterly ruined. The churchyard had been properly fenced in and was not desecrated. But the great green (magnum cœmeterium) was so open, many disorders had arisen which the dean and chapter did not know how to remedy. The green was made too common by horses and drays passing over it. The cathedral, it appears, was used as a passage to the bishop's house and other dwellings in the cloisters, "but they forbid and restraine any offensive carriages that way."

At the time much importance was attached to the kinds of seats which were found in churches, and especially in cathedrals. Charles I., no doubt on Laud's suggestion, had ordered that standing seats were to be taken down and movable seats substituted in the body of the church. In Bristol a seat about 30 feet in length had been set up on the south side for the mayor and other members of the corporation, with one on the north side for their wives. As a consequence of the space occupied, it was said that neither knight nor esquire, lady or gentlewoman, could find a proper place to hear the sermon. Seats were also set up rising like steps, and in the last of them the men stood with their heads covered. The question of seating was, in fact, connected with doctrine or with ritual, and in some places the arrangements were made without much consideration for the ecclesiastical authorities.

The windows of Rochester Cathedral were not in a satisfactory state in 1634. The dean and prebendaries said that the cathedral was sufficiently repaired in all divisions, the only defect being in some parts of the glass windows, and that was very small. Attention was called to the fact that of late years there had been a great charge on them in stonework, timberwork and lead, amounting in all to 1,000*l*. If the glass windows had been at first repaired they would have been broken again before the other repairs had been completed. Laud was not satisfied with the statement, for his secretary endorses it with the order, "Let care be taken that the glass windows be repaired, for I have heard much complaint of their decay."

The influence of Laud was seen in persuading Charles to undertake the restoration of St. Paul's. It was one of the causes which embittered the people against the archbishop. He established a High Commission Court, which was as much feared as the Star Chamber, for it was supposed to be an imitation of the Inquisition. As the fines inflicted were set apart for the works at St. Paul's, the belief arose that many of the prosecutions were instituted not for the sake of morality or orthodoxy, but as a means to raise money to pay the builders. The dean and chapter, therefore, in the report say that the cathedral was much out of repair, but of late years by the bounty and goodness of His Sacred Majesty and the care of His Grace of Canterbury the building was in a fair way to be well repaired. As for profanations, it was said there were more committed every day than the chapter had power to hinder; and on this Laud remarked, "Let some course be taken to observe and prove the profanations and I will obtain from His Majesty power to remedy."

Laud did not enjoy the power to which he aspired. The archbishop was impeached and was charged in the Upper House with the crime of high treason. He remained three years in prison, and at the end of that time he was brought to his trial, which occupied twenty-one days, with intervals between them. There could be no doubt the usual procedure was set aside in his case and judgment was pronounced on him by the Commons, although they had neither heard nor read the evidence given elsewhere, and sentence was passed through an unsworn and one-sided statement made by one of Laud's enemies. It could not be denied that Laud was attentive to his duties and of a most moral character. But it was not fair to consider him as if he were the only member of the Star Chamber, and therefore responsible for all the cruelties which that tribunal had committed. The papers connected with his visitations reveal that many of the clergy were becoming indifferent to the conservation of cathedrals and churches. Their neglect was illegal, but owing to the disturbed state of the country there was no force to set the law in motion in order to restrain so much lawlessness. Laud's eagerness to preserve the beauty of the buildings was misinterpreted, and the hatred against the archbishop was by a fatality transferred to some extent to the churches, for they were supposed to be instruments to uphold his tyranny and cruelty. Laud for a time did something towards the restoration of the English cathedrals. But we are forced to believe that the vandalism which casts a stain upon the Commonwealth was caused by the "little meddling hocus-pocus," as he was described by some of his enemies. He laboured, however, with the highest intentions, and however numerous were his political errors, he should be revered for his efforts to uphold the beauty of English ecclesiastical buildings.

WESTMINSTER ABBEY.—III.*

According to Sir Gilbert Scott, the lady chapel at Westminster, which was supplanted by Henry VII.'s Chapel, was commenced in 1220, that is, four years after the accession of Henry III. Rheims Cathedral was commenced eight years earlier, and Amiens Cathedral in the same year as the English work. Henry died in 1272. It must always be regretted that we have no adequate contemporary record of what took place in the Abbey during that memorable half-century. We may be sure the king visited the works as often as time and State affairs permitted. But imagination alone can create the scene which the Abbey presented on such occasions. What would not now be given to have an account of the conversations between a few of the masons on those and other occasions? We can have, however, an almost momentary glimpse of the time between 1258 and 1261, which enables us to realise the extent of the operations. A few written commands or warrants corresponding with the modern orders for extra works have survived. In them King Henry addresses John of Gloucester, Edward of Westminster and Robert of Beverley, who are described as "our masons and wardens of our works" at Westminster. They are directed to send to St. Martin's, London, sufficient marble columns with forty freestones in order to make a pulpit which is to be the king's gift. The Friars Preachers of London, or Dominicans—an Order established about forty years before, and who possessed a house in Holborn since 1221—were to have one thousand freestones for their works. Five figures of kings carved in freestone and also a pedestal for a figure of the Blessed Virgin were to be presented. At the same time the Dominicans were to have lead to make an aqueduct, as well as all the cinders of the king's lead used for the church of Westminster. From the donations it would appear as if the monks were contemplating migration to Castle Baynard, where the Black Friars long remained. Then we learn that two thousand pounds of stone like that bought for the king's works should be handed over to the Dominicans, as well as six "carrates" of lead to complete the aqueduct. By another warrant

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* See Illustrations.

200 freestones are to be given to the chapel of St. Blaise at St. Martin's, London. The warden of the king's works at Windsor was authorised to receive 300 freestones. Strange to say, a similar quantity was granted to one Simon Passelewe, to enable him to build a chimney. These little documents enable us to realise the magnitude of the works in connection with Westminster, which were able to supply stone and lead for other buildings. They also reveal the munificence of Henry III. We can observe, too, the tact of the Friars, who were able to obtain aid towards the building of their own churches and monasteries in the shape of materials when money was not available. Another letter has survived which was written about the same time by the Sheriff of Lincoln, who advises Master John le Mazun that he had sent by the king's command from St. Botolph to London forty-three carrates of lead and twenty afterwards, all of which had been faithfully weighed, and the carrier would account for it according to two tallies sent by a messenger. Robert of Beverley, warden of the works at Westminster, is informed by another letter from Richard le Wyte, in charge of the quarry at Purbeck, that the bearer, Peter de Sarcosye, had expedited the king's work at the quarry as much as he could, and had brought two shiploads of stone: his expenses were 13*l.* 13*s.* It is to be hoped he was rewarded. In 1261 it is announced that a sum of 260*l.* remains unpaid for the wages of the white stone cutters (alborum cissorum) and lesser workmen, as well as for freestone, lime, &c.

A few other incidents connected with the history of the building may be noted. Richard II. was too expensive in his tastes to be a great benefactor to the Abbey. He agreed to pay 100*l.* a year towards the completion of the monastery, a term which always was remote. We suppose he grudged parting with so much money, or he may not have possessed the sum when it became due. It was agreed that the priory of Stoke nigh Clare, in Suffolk, was to be made over to the abbot on surrendering of the royal grant. In 1413 letters patent were granted to Will Walden and others, conferring on them the power of pressing workmen for the construction and repair of the nave, and obtaining timber, lead, &c., for the work. This last record is most important, for it shows that with his usual energy Henry V. had no sooner ascended the throne than he resolved to have the nave completed, which had been slowly advancing since the death of Henry III. The king was as indifferent to the liberty of workmen as he was to that of the yeomen; both had to submit to authority in cases of emergency. Short as was his reign, the building was apparently completed in time for the hero's funeral, and it was there we have the scene enacted which is described by Shakespeare (unfortunately without introducing any characteristic of the Abbey), when Bedford exclaims in words that reveal the despondency of England:—

> Hung be the heavens with black, yield day to night!
> Comets, importing change of times and states,
> Brandish your crystal tresses in the sky:
> And with them scourge the bad revolting stars,
> That have consented unto Henry's death!
> Henry the Fifth, too famous to live long!
> England ne'er lost a king of so much worth.

Then in the next reign we learn that the abbot of Westminster was pardoned for not paying a sum of 69*l.*, which was a moiety of a tenth granted by Convocation to the king. The abbot excused himself by declaring that he was unable to rebuild the dormitory of the monastery, which had been lately burnt by an accidental fire. The record suggests the difficulty of raising the war expenses amidst the troubles of the reign of Henry VI., and that without aid from the Royal treasury Westminster Abbey could not be kept in a fitting condition. Thomas Millying was master of the works in 1470, and he acknowledges that a sum of 37*l.* 16*s.* was owing to a plumber. The art of printing must always be associated with the history of the Abbey, for William Caxton exercised it there in 1477 or earlier, his press having been set up in the almonry by the chapel of St. Anne. The Abbey would also appear to be no less closely connected with the early history of silk-weaving, for there is a memorial of the time of Edward IV. to the king begging that Robert Essex, one of the monks, should have the use of certain frames devised for the making of silks, which were standing unused in the monastery.

We alluded last week to some of the difficulties which arose in obtaining funds for the works at Westminster, and said that fines and royalties of various kinds were appropriated to the building fund. One source of income was rather remarkable. Westminster possessed the right of sanctuary. A great many of those who fled to the capacious refuge which was afforded by the boundaries apparently acted as if they had received advice from some fourteenth-century Wemmick, and took the precaution to "transform their property into a portable form." If their lives were safe, it did not follow that the gold was also under the protection of the Church. There is a petition from Thomas Cherman to the abbot saying that all his goods and chattels had been taken away on his entry into sanctuary, and that he was ruined. But the abbot relied on his charters for the authority to keep the property of felons and all fines, amercements, &c., which might be imposed.

Much larger sums were, however, required than were to be abstracted from runaways. As early as 1231 we find the abbot and convent arranging with Agapitus de Vezosa, a Venetian merchant, and other Italians, for money. Abbot Ware, who died 1259, had also pecuniary transactions with the Italians, and it was necessary to take proceedings against him and the monks for the recovery of the instalments of the sums borrowed. Abbot Walter de Wenlock in 1298 gave a bond to some Florentine merchants for the sum of 20,000*l.*, which was to be the ransom of John de St. John, who was taken prisoner in France. But the strangest of all the financial transactions were those in which Henry III. was a principal. The king had erected the shrine of the Confessor, which is believed to have been surmounted by a splendid tabernacle instead of the woodwork we now see. The artist was Peter of Rome, and the shrine was as rich as gold and silver and colour could make it. But towards the end of his reign Henry III. was compelled to borrow jewels and precious stones, not only those belonging to the shrine of the Confessor, but also from other shrines, in order to raise money upon them. He promised to return them within a year, and put himself under the judgment of the Pope and bishops. There is nothing to show that the promise was not kept. In 1299 the abbot was compelled to take gold from the shrine to be coined, because "sterlings" were exceedingly scarce, and the other gold coin in use was too debased for the offering which was made to Queen Margaret on her first visit to the Abbey. King Richard II. presented a ruby ring to the Confessor's shrine, but it was on condition that he might wear it while he was in England. Edward II. had hardly ascended the throne before he discovered that he was without money. He was compelled to beg the abbot to lend him on sight five hundred marks. The financial history of the Abbey was undoubtedly remarkable, and a set of the ledgers and other account books would be of great advantage in tracing the progress of the works. In another letter the abbot is asked for a supply of oak and ash, which was required for springalls and other engines to be used in the French war.

The abbot who was possessed of most money, although he does not appear to have lent any to a king, was Simon Langham, who ruled from 1349 to 1362. He was made Bishop of Ely afterwards and then Archbishop of Canterbury and Cardinal, and he served the State as Lord High Chancellor and Lord High Treasurer. He was rigidly economical, and as his father was buried in the nave, he looked on the Abbey with more than official affection. He was an agent in the completion of the nave, and when he died he left a sum of money which is supposed to be equivalent to 200,000*l.* of modern currency, in order that the abbot's house and the larger part of the cloisters should be erected. The work was carried out by Nicholas Littlington, who was one of the hardest men that ever entered into a building contract, but whose memory was respected after his death. He wished to have signs of wealth in the Abbey, and for that purpose he yielded twenty marks yearly for the purchase of a supply of plate. In the fourteenth century the plate weighed over one hundred and twenty pounds. Littlington evidently was over anxious to be remembered as a benefactor to the Abbey. With that object he ordered his initials to be carved repeatedly on the masonry, and he was not too scrupulous in avoiding the work which should be credited to Langham and others.

The wonder is that a large number of the abbots were not selected like Langham to be Ministers of State. It required a strong head for affairs to preside at Westminster, for the duties of the office were manifold, and when a man like Abbot Norwich was unable to control himself, the opportunities for extravagance and mismanagement were endless. The abbot was an absolute monarch, and it was very difficult to put in motion the cumbrous machinery to bring about his deposition. The management of the property was an anxious task, for, according to the late Dean Stanley, the vast possessions of the Abbey were scattered "not only over the whole of the present city of Westminster, from the Thames to Kensington, or from Vauxhall Bridge to Temple Bar, but through ninety-seven towns and villages, seventeen hamlets and 216 manors, some of which have still remained as the property of the chapter." The abbot was in early times not only absolute owner of the manor of Westminster, but Lord of the Manor, with all the feudal privileges attached to that dignity. When the duties were so multifarious and engrossing we need not wonder if the history of the Abbey presents no names of abbots who, like William of Wykeham and other ecclesiastics, appeared to have no less interest in the designing of buildings than in their construction.

The two illustrations we publish this week are the north porch and the choir looking east. The north porch of Westminster Abbey has been subjected to more changes than any other part of the building. John Carter, writing in 1799, said:—"The north front of the north transept has undergone a thorough architectural reformation. The basement storey contains three porches. In that to the west is introduced a square-headed doorway, and in the centre porch a double square-headed doorway. The tracery over it is ancient, but has been recut according to those maxims which inspire modern workmen with the presumption that they can improve the performance of our ancient artists. Much of the soffit of the arch of this porch has been recut. The other porch to the east (which has no doorway) remains in its original state. In the spandrels of the arches of these porches the compartments are in a new way, as is the open parapet above them." The idea of Gothic which prevailed a century ago, and which Carter sneered at as a "new way" and a "reformation," whatever its merits, did not correspond with that of the original builders, for the north porch was anciently considered to be one of the marvels of the Abbey. But the "new idea" was likely to come nearer to Gothic than Sir Christopher Wren's, for he also operated on the north porch. What we now see is to be credited to the late Sir Gilbert Scott and J. Loughborough Pearson. They have introduced rows of apostles and saints, the horizontal lines forming a marked contrast with the lines of the arching.

The second illustration presents one of the most pleasing views of the interior, showing the crossing of the north transept. It was this view, we believe, which impressed Washington Irving when he wrote:—"The eyes gaze with wonder at clustered columns of gigantic dimensions, with arches springing from them to such an amazing height, and man wandering about their bases shrunk into insignificance in comparison with his own handiwork."

EXPLORATION OF CAERWENT.

The excavations which have been conducted under the direction of a committee, consisting of Messrs. Hudd, Martin, Pritchard and Ward, began on August 17 on a plot of three acres of meadow land in the south-west corner of the city. On the west side of this plot the city wall is continuous, and, except possibly in one spot, both inner and outer faces are still clearly visible, though, of course, the wall has lost something of its original height. On the south of this plot the wall is much more decayed, and in several places has been destroyed, with the exception of the inner face. This has, however, been traced by trenches, and has no doubt been preserved by the earth which has accumulated against it. The rounded angle between the west and south walls, when cleared of briars and bushes, was found to be comparatively well preserved, and in one place the wall cannot, on the inner side, be far short of its original height. The excavations here were extremely interesting. In one place holes were sunk down to the foundations on both sides, so as to obtain a complete section of the lower part of the wall. The lower courses were found to rest on a layer of uncemented, irregular blocks of stone or boulders, at a depth of about 11 feet 6 inches below the present interior ground level. The width of the wall at this place was about 11 feet at the base, diminishing by offsets to about 9 feet 6 inches at the ground level.

This excavation also revealed on the inner side of the wall a notable change in the nature of the masonry. The older work of good and regular courses was succeeded towards the east by very inferior and irregular masonry. The fracture or line of junction between the two may possibly, but by no means certainly, indicate repairs. To the east of this excavation and at about the middle of the rounded angle a platform, presumably for ballistæ or other engines of war, was uncovered. This platform, which may have served also to strengthen the curved portion of the wall, was certainly carried up some feet above the interior ground level.

The ground inside the walls was examined by trenches dug at an angle of about 45 degs. with the city walls. For a distance of about 100 feet from the west wall no foundations, with one small exception, were discovered; but the trenches revealed at a depth of about 3 feet a layer of black earth, which was fairly well distributed over the extreme south-west corner of the city. This layer contained much pottery of the commoner kind, coins and bones of animals, and it has further interest as affording an indication of the contour of the ground in Roman times.

Further to the east foundations were speedily found, and when followed up revealed the existence of at least three separate buildings. No. 1 (beginning on the west) consists of two rooms, the larger of which contains one furnace of a not very usual type, and another construction in the centre of the area, which may have been a furnace, but if so it is somewhat peculiar in design. This building, which is built across walls of an earlier construction, would seem to have been a factory rather than a dwelling-house. Immediately north-east of, but not certainly belonging to, this building is a rectangular paved space of about 13 feet by 6 feet, enclosed by four walls, of which the southern one is pierced by a well-turned arch. This space was almost entirely filled with fine earth, and contained slag, fragments of metal resembling the collars of a pipe and quantities of pottery, including an unbroken specimen of a jar of black ware. Although there were many traces of the action of fire, it is by no means certain that this construction served as a furnace, and the arch in the south wall is an obvious objection to its having been a tank. It is possible that it may have had some connection with the trade or manufacture carried on in the adjoining building, but at present its use must remain undecided.

From this point a wall led eastwards for some 67 feet to a large house of a most interesting type. This house consisted of a centre area or court surrounded by rooms on all four sides. A corridor also runs along the outer side of the eastern rooms. The rooms on the north-east and south sides are mostly small; on the east there are two large rooms, one of which contains a projecting course of masonry abutting against its north wall, which may have been the foundation of a dresser or of a bench. On the south side there is a hypocaust with brick pilæ, but the pavement has disappeared. The floors of most of the rooms were either of mortar, *opus signinum* work, or rammed pebbles. The central area has not yet been fully explored, but it is of a peculiar interest, as it shows an ambulatory paved with coarse red tesseræ separated, at any rate on the western side, from the internal area by courses of solid masonry which supported columns. Of these two have been found so far, and one capital with good early mouldings of the Roman Doric Order. A finely constructed stone drain led from this western side of the court under the rooms on the south side of the house.

Projecting from the southern side of the house is a platform, 14 feet by 12 feet, of solid masonry, with channels cut in its surface leading into a drain on its western side. The drain, which has a steep fall to the south, is paved with large tiles. This platform appears with very little doubt to have been a latrine, but its size is unusual.

North of the house No. 1 the foundations of another fine house with a hypocaust and a room with an apsidal end have been found; but as this house runs into ground which will not be taken up for excavation till next year, no further details can be given at present.

While these excavations were going on Mr. Morgan, the village wheelwright and smith, who has been greatly interested in the explorations, set to work with his sons to excavate the interior of the north gate, which happens to be situated in a field belonging to him. Acting under advice, they sank a hole, which revealed the two piers of the gate, the tops of which were only a few inches below the surface. The gateway itself had been blocked up at some later date by regular courses of masonry resting on massive blocks of stone, one of which was a very fine capital. On the outside of the wall the turn of the arch resting on the western pier can still be seen, so that when these excavations are resumed next year it is nearly certain that the structure of almost the entire gateway can be accurately determined.

All the excavations have been fruitful in finds of the usual character, but though many of them are interesting, no object of exceptional value has been found. The numerous coins are mostly late and but few are well preserved. Samian ware is not very plentiful and is mostly in small pieces. Among the metal objects are a dagger, a curious little pocket-knife and some good styli and pins. Only two fibulæ have been found hitherto, but considering that the area excavated was for a long time arable land, and that the walls are often only a few inches under the surface, it is not strange that objects of this class are rare. No rubbish pits have been found so far, but no doubt, as at Silchester, these when they are found will be abundantly fruitful. All the finds have been already labelled and arranged in a temporary museum, for which accommodation has been kindly provided in the village by the Rev. J. Berryman.

Work will be resumed next spring, when the central area of the large house and the house on the north will be thoroughly explored. So far the committee have every reason to be satisfied with the results, and if only sufficient funds can be raised there is ground of a most promising nature to be excavated, and enough work for at least three or four years.

The expenses of this year amount to about 130*l*. These include rent, fencing, other preliminary expenses and wages for eleven weeks' digging. There is a balance in hand with which to begin work next spring, but more funds are required for the coming year, and it is hoped that members of the committee will endeavour to secure more subscribers. A balance sheet will be printed and circulated at the end of the twelve months' work, when a detailed report will be presented. Subscriptions and donations may be sent to Mr. A. E. Hudd, 94 Pembroke Road, Clifton, Bristol. The excavating committee have received valuable assistance from Mr. T. Ashby, of Christ Church, Oxford, and from the Rev. W. A. Downing, vicar of Caerwent.

ARCHITECTS AND BUILDERS.

THE annual conversazione and distribution of medals, prizes and certificates in connection with the Polytechnic Schools of Architecture and Mechanical Engineering took place on the 12th inst. Colonel Robert W. Edis, F.S.A., who presided, congratulated Mr. Mitchell and those associated with him upon the magnificent success of that great technical school and the great number of rewards they had obtained. Technical knowledge was always valuable. He was about to send to the front in South Africa about sixty men of his own regiment (the Artists' Volunteer Corps), and he did not think they would be found worse men because one of them could drive an armoured train, another could take a Maxim gun to pieces and knew all the intricate mechanical portions of it, because others could take surveys of the ground over which they might have to fight, because a good number of them were able to take views of the mountains they had to pass, and some to measure up the designs of Pretoria when they got there. Architecture was not a mere question of design, making pretty drawings or sketches—it was a question of intricate knowledge of that which was due to the comfort of the people. The great curse of the present moment was trade unionism. He had lived and worked in his profession for forty years, and he remembered the days when men and masters were at one, when the masters respected the men, and he believed the men respected the masters, and when, he knew, the work was infinitely better done than it was to-day. The builder ought to be associated with the architect and to feel that the architect was associated with him, and they ought to be able to trust each other; then they would have loyalty from those with whom they worked. Those who were taking up his profession were writing history, for architecture in all time had written the strongest history in the world. In conclusion, he said that the schools were doing more good than anything else he knew of, because they were teaching a variety of technical matters that the students could get in no other way.

SOCIETY OF ARTS.

THE following are the arrangements for meetings until the end of February:—Monday, January 22, 8 P.M. (Cantor lecture). Bennett H. Brough, "The Nature and Yield of Metalliferous Deposits" (lecture 1). Wednesday, January 24, 8 P.M. (ordinary meeting). W. O. E. Meade-King, M.Inst.C.E., "Local Government and its Relation to Parish Water Supply and Sewerage." Monday, January 29, 8 P.M. (Cantor lecture). Bennett H. Brough, "The Nature and Yield of Metalliferous Deposits" (lecture 2). Tuesday, January 30, 8 P.M. (applied art section). Cyril Davenport, "Niello Work." Wednesday, January 31, 8 P.M. (ordinary meeting). Sir W. Martin Conway, M.A., "The Undeveloped Resources of the Bolivian Andes." Thursday, February 1, 4.30 P.M. (foreign and colonial section). The Right Hon. Sir Charles Dilke, Bart., M.P., "The Century in our Colonies." Monday, February 5, 8 P.M. (Cantor lecture). Bennett H. Brough, "The Nature and Yield of Metalliferous Deposits" (lecture 3). Wednesday, February 7, 8 P.M. (ordinary meeting). Edmund Wilson, "The Housing of the Poor." Thursday, February 8, 4.30 P.M. (Indian section). J. M. Maclean, M.P., "The Projects of Railway Communication with India." (This meeting will be held at the Imperial Institute.) Monday, February 12, 8 P.M. (Cantor lecture). Bennett H. Brough, "The Nature and Yield of Metalliferous Deposits" (lecture 4). Tuesday, February 13, 8 P.M. (applied art section). John Sparkes, "The Best Means for Arresting the Decay of Indian Art." Wednesday, February 14, 8 P.M. (ordinary meeting). Prof. R. W. Wood, "The Diffraction Process of Colour Photography." Wednesday, February 21, 8 P.M. (ordinary meeting). Edwin Bale, "Artistic Copyright." Tuesday, February 27, 4 30 P M. (foreign and colonial section). R. Hedger Wallace, "Agricultural Education in Greater Britain." Wednesday, February 28, 8 P.M. (ordinary meeting). Prof. Charles A. Carus-Wilson, M.A., "The Electrical Induction Motor on Mountain Railways."

WALLASEY IMPROVEMENTS.

THE Wallasey Urban District Council obtained an Act of Parliament last session to construct tramways, street improvements and promenades, and for other purposes.

The most important claim (recently settled) arising was that of Mr. James Kiernan, the owner of the Northmead Estate, containing 9,623 superficial yards, which extended from Brighton Street to the River Wall, consequently having two frontages which were affected.

Mr. H. W. Cook was solicitor for the Council and Mr. R. D. Rappart was appointed their negotiator and valuer, with Mr. W. H. Travers, C.E, the promoter's surveyor. Mr. J. H. McGovern (Fellow of the Liverpool Architectural Society) acted as negotiator, surveyor and valuer for the claimant; Mr. Venn was parliamentary agent and Mr. Lankaster counsel for Mr. Kiernan. In the notice sent by the Council to the owners, lessees and occupiers, asking whether they assented to or dissented from, or were neuter in respect thereto, notice was given, notwithstanding sec. 92 of the Land Clauses Consolidation Act, 1845, that they may be required to sell and convey part only of their property. On April 24 last Mr. McGovern was commissioned by Mr. Kiernan and Mr. William Harley (an adjoining owner on the south side) to make a journey to Westminster, when the Bill was before a committee of the House of Commons, to consult with the said agent and counsel herein. It was discovered by Mr. Venn and Mr. McGovern that Nos. 67 and 36 respectively on the deposited plans were not scheduled in the Bill. Counsel advised that sec 92 aforesaid would be effective, and the point could be raised before the tribunal (a jury or arbitrator) when assessing the amount of compensation. It would practically be an act of grace on the claimants' part to negotiate for the sale only of the frontages. A frontage of 230 feet by a depth of 60 feet was required for the promenade, equalling 1,533 superficial yards; 2*l* per superficial yard was asked, amounting to 3,066*l*. The claim was under three heads:—First, the area of land taken; second, the river easement; third, consequential damage (sec. 63 L.C.C.A., 1845) in reference to the remaining portion injuriously affected in laying out same as a residential estate (plans for this purpose were prepared by Mr. McGovern), the privacy of which would be interfered with by bringing hordes of people on the promenade in front of the estate. Two other ways of dealing with the claim were suggested. That there was an extensive frontage to the river Mersey, and was therefore suitable for erecting wharves, factories or mills, and the special adaptability must be taken into consideration, *vide* Ripley *v.* G.N.R. Co. (L.R., 10 Ch. 435); the celebrated case of Buccleuch *v.* Metropolitan Board of Works (L.R., 5 H.S., 418; 41 L.J., ex 137) was cited in support of a claim for compensation, cutting off access to the river by placing a promenade (or road) between the estate and the river. An iron gate gave access to the shore. The other scheme was to convert the estate into a pleasure-ground, with Japanese tea-houses and places of amusement, and forming it into a company. Mr. Kiernan purchased this freehold estate for 5,000*l*. about a year and a half ago for the purpose of erecting a theatre, but the local authority threw out the plans on the frontage question, pursuant to section 3, Public Health Act, 1875. Subsequently he purchased another one in Victoria Road, and was likely to meet with the same difficulty had not Mr. McGovern shown him a way out of it. Mr. Kiernan has erected a theatre on this site; the corner-stone was laid by Sir H. Irving on October 11 last.

The designs were furnished by Mr. J. H. Sutton, architect, and Mr. McGovern gave professional assistance in reference to an amended plan and in other matters connected with the erection of the theatre. As regards the widening of Brighton Street, 209 superficial yards were required (171 feet by 11 feet); 418*l.* was stated to be its value, being at the rate of 2*l.* per yard. Mr. Kiernan's claim in all amounted to 3,484*l.* After several interviews terms could not be arranged for a price for the frontages, and ultimately it was agreed to sell the whole estate to the Council for 6,400*l.* and costs.

Mr. W. Harley's claim consisted of freehold terrace dwelling-houses, being from Nos. 108 to 116 Brighton Street, with front garden 32 feet in depth. The Council wanted 12 feet in depth coextensive with the property; $199\frac{3}{9}$ superficial yards were sold (149 feet 6 inches by 12 feet) at the rate of 39*s.* per superficial yard, amounting to 388*l.* 14*s.*

Mr. McGovern contended that the character of the neighbourhood had changed from residential to shop property. The taking away of 12 feet in depth would leave the proposed shops with reduced depth, which affected the rental value to the extent of 6*l.* each per annum, or 30*l.* for the whole. This on the 5 per cent. table equalled 600*l.*, or at the rate of about 3*l.* per square yard. The Council refused at first to pass the plans for the bringing forward of the shops (under sec. 3, Public Health Act, 1888), but ultimately did so.

Mr. J. Shakespear Smith acted as solicitor for the claimant.

STATUTORY REGISTRATION.

THE Council of the Society of Architects, in view of the Bill for the Registration of Architects now before Parliament, consider it eminently desirable to ascertain at once the attitude of provincial architects on this important subject, and have therefore arranged to hold a series of meetings in the provinces, to which architects in the localities chosen will be invited.

A meeting will be held at the Athenæum, Bedford Circus, Exeter, on Friday, January 26, at 6 30 o'clock P.M., when the members of the Devon and Exeter Architectural Society and others have signified their intention of attending. Mr. T. Walter L. Emden, J.P., L.C.C., president of the Society of Architects, will take the chair.

Mr. Ellis Marsland, hon. secretary, will read a paper on "The Statutory Registration of the Profession," of which the following is a synopsis:—The registration movement in 1886. What is registration? Registration in the professions. Why is architecture not a profession? The advantages of registration. Some objections. How is registration to be obtained? The necessary provisions of a Registration Act. Its objects. The authority to administer the Act. Qualification for registration. The examining body. Fines upon and disabilities of unregistered persons. The Registration Bill committee. The Bill promoted by them. Conclusion.

Mr. Charles King, president Devon and Exeter Architectural Society, will move:—"That this meeting cordially approves the principle of the statutory examination and registration of architects, and is of opinion that it is desirable in the interest of the public and the architectural profession to promote a Bill in Parliament for the attainment of this object." Mr. James Crocker, past president Devon and Exeter Architectural Society, will move:—"That a copy of this resolution be sent to every member of Parliament within the district covered by the Devon and Exeter Architectural Society." There will be a general discussion.

BRISTOL SOCIETY OF ARCHITECTS.

THE usual monthly meeting was held at the Fine Arts Academy on the 8th inst. There was a very full attendance of members together with several visitors. The chair was taken by the president (Mr. W. L. Bernard), and Mr. Beresford Pite, of London, read an interesting paper on "Architecture in Palestine, Ancient and Modern." The lecturer first dealt with building conditions in the East, giving full particulars of the materials to be obtained and the difficulties of transport and the absence of timber and joinery work. The price of building in Jerusalem was then gone into, and the curious method of charging by counting the number of the stones in the wall, and other methods peculiar to the East, were naturally of great interest to a professional audience.

Mr. Pite some years ago built a large hospital at Jerusalem, and plans were shown on the screen of the Greek Hospital, the Russian, the French and the Jewish Hospital, erected at the expense of Lord Rothschild. It cannot, however, be said that these are altogether satisfactory from the point of view of modern hospital arrangement and construction; the English hospital which Mr. Pite has erected is, however, absolutely superior to anything else of its kind in the country. The various methods of building practised in Jerusalem and the construction of the flat and domical stone roofs which are almost universal were fully explained and made clearer to an English audience the many allusions met with in the Scriptures. A large number of very interesting photographs of ancient buildings in Jerusalem was then shown by means of the lantern, and the lecturer very lucidly pointed out the works of the Romans, the Mahomedans, as also the very interesting Mediæval Gothic work erected in the time of the Crusades, which is so full of charm and grace. The leading points of interest in the Holy City were shown, although it was difficult to fully realise their beauty in the absence of colour.

Mr. G. H. Oatley proposed a very hearty vote of thanks to the lecturer, and this was seconded by the hon. secretary (Mr. H. Dare Bryan), both of whom dwelt on the kindness of such a busy man as Mr. Pite in coming down to Bristol. Other speakers were Mr. J. Atwood Slater and Dr. Bertram Rogers, the latter of whom made several interesting comments on hospital arrangement from a doctor's point of view. The vote of thanks was put to the meeting by the chairman and carried with acclamation. Mr. Pite, in returning thanks, ably answered the many inquiries of the different speakers, and the proceedings then terminated.

VANDALISM IN CYPRUS.

THE following letter has been addressed to the Secretary of State for the Colonies on behalf of the Royal Institute of British Architects:—

9 Conduit Street, London, W.: January 10, 1900.

Sir,—The President and Council of the Royal Institute of British Architects have had their attention drawn to two letters in the *Times*, dated December 16 and 26, 1899, and respectively headed "Ruined Cities in Cyprus" and "Vandalism in Cyprus." They are also informed that plans have been accepted by Her Majesty's Government for certain harbour works at Famagusta in connection with a tramway to Nicosia, in which the destruction of portions of the curtain wall of the fortified city is contemplated.

The President and Council respectfully beg that in the carrying-out of any such works the fortifications and surroundings of this remarkable and almost unique example of an old walled city should remain intact. They venture to urge the great value of the place to the historian, the artist and the antiquarian as a picturesque monument associated with some of the most stirring events of the Middle Ages.

In requesting Her Majesty's Government to reconsider their decision the President and Council would most respectfully suggest that the Custom sheds and railway works, to make room for which it is intended to destroy the portions of the curtain wall facing the old port, might be placed in the large tract of almost vacant land, nearly a mile in width, lying to the south of the town.

They beg to append three tracings, one showing the plan of the fortifications, another the curtain wall from within Famagusta on the north side of the water gate, and another the curtain wall on the south side of the water gate.

We are, sir, your most obedient servants,

ALEXANDER GRAHAM, Hon. Secretary.
W. J. LOCKE, Secretary.

ARCHITECTURAL ASSOCIATION OF IRELAND.

A MEETING of the above Society was held in the Grosvenor Hotel, Westland Row, Dublin, on the 9th inst., at which Mr. M. Glover read a paper on "Temples and Temple Building." The president, Mr. George Sheridan, occupied the chair.

The Chairman, in introducing the lecturer, said that Mr. Glover had consented to read the paper at very short notice, as Sir Charles Cameron, who was to have delivered a lecture on sanitation, was unavoidably prevented through illness from attending.

Mr. Glover, in the course of his remarks, which were illustrated with lantern views, dealt at the outset with the religious beliefs of the ancient Egyptians, including star worship and sun worship. It would be necessary to go into the question at some length, as it was bound up with their system of architecture. With the Egyptians the land of the departed lay somewhere in the North-West, and, like the people of Assyria, they were dominated by the idea of the power of the dead. Having explained the Egyptian worship of the sun-god Osiris and his consort Isis, and the star worship which preceded it, and pointed out the correct knowledge of astronomy which they manifestly possessed, the lecturer went on to speak of the architecture of the early tombs in so far as it symbolised the religious system of the people. These tombs seemed to be the precursors of the Pyramids, the technical details of which were described at length. In conclusion he said that to modern architects his best wish was that they might live to rival, he would not say to outshine, for that would not be possible, the men whose work was that with which they were dealing.

A vote of thanks to the lecturer concluded the proceedings.

NOTES AND COMMENTS.

The reopening of the church of St. Maria in Cosmedin, Rome, after restoration is an important archæological event, although the work executed is likely to give rise to much controversy. The site is supposed to have once been occupied by a great temple dedicated to Fortune or to Ceres, and on it in an early age a Christian church was constructed. It used to be generally supposed that the church was a reproduction of a small basilica. The nave is separated by columns with Corinthian caps that must have been constructed for other shafts. Around the walls are arched niches which are supposed to have been constructed for devotees who wished to pray with their faces to the wall. At one time there was a piece of an iron rod attached to a column which was supposed to have served for one of the curtains which were drawn at a certain part of the service in order to exclude a view of the altar. Of late the old church is supposed to be one of those erected by the Cosmati. According to Signor Cattaneo it is the most ancient example of a Christian church remaining in Italy, and perhaps the first that was seen in Rome. In fact there does not exist in Italy, he says, any church anterior to the epoch of the eighth century which presents the same arrangement of the ends of the nave. There is no earlier example of a basilica with three apses, although it may be only a survivor among others on the same plan which were destroyed. By removing the whitewash some Mediæval frescoes have been revealed. The ancient arrangements have been restored with care, and this old church, which used to be inaccessible whenever the Tiber was in a state of flood, will now be often visited by all lovers of early Christian architecture. It is supposed by some that the name "in Cosmedin" is evidence that the church must at one time have belonged to the Greeks, and apparently it contains workmanship of various pictures from the third to the fourteenth century.

The difficulty of deciding cases in which contractors are concerned by means of the ordinary law courts was exemplified on Monday in one of the Dublin courts. The amount at issue in the case was not large, and consequently it appears irrational that a large sum should have to be expended on law costs without any satisfactory result for either side. The plaintiffs, Messrs. Millar & Beatty, claimed 93*l.* 13*s.* 11*d.* from Mr. Freedman, the balance of account for work done. The defendant brought the money into the court, but counterclaimed 70*l.* for failure in completing the work on the day agreed upon. The plaintiffs had entered into a contract to fit up a new shop front and other works in Henry Street, Dublin, for 345*l.* It was agreed that the shop should be ready for opening on April 8, 1899, and a penalty of 5*l.* a day was to be paid for any time which elapsed until the premises were handed over to defendant. There was a delay of fourteen days, which the plaintiffs attributed to causes for which defendant was responsible. The defendant denied that any act of his had caused the delay, and counterclaimed 70*l.* for the fourteen days' delay, or in the alternative 100*l.* as damages. The judge put several questions to the jury; some were not answered, but his lordship considered the replies in the affirmative which had been given as an equivalent to a verdict for the plaintiff. Counsel for the defendant maintained, on the contrary, that the plaintiffs absolutely were not entitled to the verdict, for the questions which the jury answered could not be separated from those to which no reply was given. The judge recorded the findings, but left it to the defendant to move the court above to have the verdict entered for defendant instead of for plaintiffs. The case, we are confident, would have been settled in an hour or two if it had been heard by a tribunal of architects or builders.

The power possessed by the United States has been again exemplified with regard to the approaching International Exhibition in Paris. When the spaces were assigned America insisted on having a far larger area than was proposed by the administration, and after a long debate the demand was agreed to. The United States were placed on the same footing with Russia. The latest example of Western power has been displayed at the expense of Turkey. The palace which the Sublime Porte had erected was to be surmounted by an immense dome, which would no doubt excite much interest. But the nearest building to it was the palace of the United States, and when it was perceived that the American structure would appear insignificant on account of the proximity of its Turkish rival, the Exhibition authorities were compelled to decree that the great dome must be sacrificed. Of late years nobody hesitates to wound Turkish pride, and it might be supposed the Ottoman race was deprived of feeling, but to transform the character of a building at the present time is to run the risk of having the Turkish palace incomplete when the Exhibition opens.

In addition to the architects who are charged with the construction of the different buildings for the Paris Exhibition of 1900, no less than seventy have received commissions in connection with the installations of the various sections which will represent French industries. The majority will be connected with single committees, but some architects have been more in request. Three of them will each have five classes to instal, and M. Courtois-Suffit will have no less than ten. Among those selected may be named MM. G. Trélat, Hennequin, Magnier, Marcel, Delmas, Ballu, Hermant, Frantz-Jourdain, Deperthes, and Escalier.

The increase in the price of materials, and especially of iron and steel, has had a surprising effect on building in America. Mr. Henry Ives Cobb, the architect of the new Post Office in Chicago, announces that the Government has saved 600,000 dols. by reason of the early award of the contracts for the iron and stonework. The contract upon which work is now being done, "enclosing the building in the rough," amounts to 1,900,000 dols. At present prices contractors would not take the work under 2,500,000 dols., according to Mr. Cobb's estimates. The difference in the price of iron used in the building, as per quotations a year ago and now, would alone amount to nearly 400,000 dols. The Carnegie Company, who have the contract for furnishing the iron, being producers of raw material, will not actually lose that amount of money on the contract, but their profit will be that much less than could be obtained at current prices.

If the erection of bank buildings can be interpreted as a sign of prosperity, then Birmingham must be as successful in business as its enterprising citizens merit. Nearly all the banks are being altered, and several new branches are in course of erection. Two new branches of Lloyds Bank are being constructed, and two of the existing branches are being largely extended. Messrs. Chatwin & Son have charge of the work. The London City and Midland Banking Company are expending about 10,000*l.* on a new bank in Coventry Road, of which Mr. Arkell is architect. Messrs. Bateman & Bateman are architects for the new branch of the Birmingham District and Counties Bank at the corner of Sheepcote Street. The Five Ways Branch of the London City and Midland Bank has been designed by Mr. William Hale, and will cost over 7,000*l.*

ILLUSTRATIONS.

WESTMINSTER ABBEY: CHOIR, LOOKING EAST, SHOWING PART OF SOUTH TRANSEPT, NORTH DOOR.

FIRST-CLASS SMOKING-ROOM, R.M.S. "OCEANIC," WHITE STAR LINE.

DESIGN FOR BANQUETING HALL.

ROYAL ACADEMY COMPETITION, 1900. PREMIATED DESIGN, LOWER SCHOOL.

We give a reproduction of the drawings prepared by Mr. F. Winton Newman for the last competition of the students of the Architectural School of the Royal Academy. They were awarded the 10*l.* prize for design in the Lower School. The conditions governing the design were as follows:—A banqueting hall in a park; front to overlook a lake; hall to be 30 feet square internally and to be domed; to have porticoes on three sides. Basement to contain kitchen and offices.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

The Works of O'Connor, Gibbs and Gerente.

(*Continued from page* 395, *vol. lxii.*)

BESIDES those works of the Messrs. O'Connor dwelt upon at more or less length in this history, there is a very large number, the names of a few of the more interesting and important of which can only be enumerated, as a considerable portion of the ground covered by the title of these papers remains to be traversed.[*]

The same remarks apply to the greater portion of the windows executed by another equally prolific artist of the Revival—Gibbs—not a few of which date back to the period when the resuscitation of this branch of ecclesiology was in its earliest and crudest phase. Consequently many of the works of Gibbs, executed too as they were without proper architectural superintendence, are beneath criticism, disfiguring rather than adorning the edifices which it was fondly hoped they would beautify.

A particularly flagrant specimen of this kind of work, but for which, considering the period of its execution (1856-60), there is not the shadow of an excuse, is the glass filling the chancel windows of one of the most graceful of London churches built after the old models—St. Matthew's, Oakley Crescent, Camden Town.

The work of Mr. John Johnson, F.S.A., whose researches into the structure of our old churches, as exemplified in his "Reliques of Ancient English Architecture,"[†] enabled him to raise this truly beautiful structure, it consists of a clerestoried nave and aisles, with south porch and a deep chancel, to the south of which rises a well-proportioned tower and spire, all carried out in a somewhat ornate variety of Geometrical Decorated.

Nothing could be worse or more vulgar than the stained-glass which was allowed to slip into the windows of the chancel of this church, desiderating as it does so completely that hieratic treatment which it would have received had it been placed in the hands of Hardman or of Clayton & Bell, the latter of whom were rising into public notice about the time St. Matthew's was completed (1856).

The interior of this church, so refreshing on account of its spaciousness and unencumbered area, has, it is pleasing to chronicle, undergone great and much-needed ritual ameliorations within the last ten years, the deep but hitherto scantily furnished chancel having received due attention, and only requiring a rood-screen and decent stained-glass to make it one of the most effective, built after the ancient models in the Metropolis.

In the nave a good commencement of painted glass has been made by Mr. Frampton on a properly digested plan, but this artist must guard against the use of too much positive colour in the clerestory windows—low ones of two rather broad lights under a triangular head—which he is filling with a series of subjects from Church history, starting with the Descent of the Holy Spirit in the easternmost window on the south side.

Glass of excellent character has been put by the same artist in the large window at the west end, with effigies of four British saints—Alban, David, Patrick and Columba—under tall canopies very silvery in tincture, the whole forming a memorial to the church's first incumbent, Rev. C. Phillips (1849-88). So suitable and excellent is this work that one cannot help regretting the employment of glass so cinquecento in feeling as that which has been inserted in one of the windows of the north aisle.

Some interest apart from its architectural one attaches to St. Matthew's, Camden Town, it having been one of the several churches promoted in his vast parish between 1846 and 1860 by the Rev. Thomas Dale, canon of St. Paul's and vicar of St. Pancras. Since the erection of that costly mass of heathenism, the parish church of St. Pancras, in 1822, an immense district had grown up about Regent's Park on its north-eastern side, to supply the spiritual exigencies of which the church now under consideration, and several others, were built.

This interesting scheme having taken place before the days of development and eclecticism, the churches due to it—St. Paul's, Camden Square, also by Mr. Johnson, and lately improved by the addition of a very imposing chancel from the pencil of the late Sir Arthur Blomfield; St Mark's, Albert Road, another badly and inadequately fitted church of mediocre character by Mr. Little, similarly ameliorated by Sir Arthur; and Holy Trinity, Haverstock Hill, the joint production of Messrs. Wyatt & Brandon—reproduce with more or less success the old models.

The last named of this trio, which, despite certain deficiencies of ritual arrangement, testify to the untiring energies of their zealous promoter, was finished in 1850, provoking some hostile criticism from the *Ecclesiologist* of that date for the manner in which the excessively broad nave was made to open into the much more contracted chancel by three arches—a narrow one, probably on the motif of Whitwell Church, being introduced on either side of the central arch, in addition to the one communicating between either nave aisle and the outer chancel aisle. Here the east window contains stained-glass by Gibbs, but of jejune character.

Another church built under Mr. Dale's auspices in St. Pancras parish, from Mr. Johnson's designs, and in the same regulation Middle Pointed, was St. Luke's, King's Cross, a structure which had but an ephemeral existence, being removed not long after its completion in 1860 to make way for the Midland Railway's extension into town. It lives again, however, in the imposing church of St. Luke, Kentish Town, from the designs of Mr. Basil Champneys, so conspicuous by its stately central tower, whose cruciform saddleback termination recalls to those conversant with German ecclesiology many of the churches lying between the Westphalian cities of Soëst and Paderborn.

A few years later than the glass by Gibbs in the chancel of St. Matthew's, Camden Town, is some by the same artist in that of St Jude's, Islington, an Early Perpendicular structure built in 1855 from the designs of Mr. A. D. Gough, who, among other vagaries indulged in in this church, capped the windows containing the said stained-glass with ogee-shaped and crocketed dripstones on *the inside.* Actually, some thirty years ago when the church was almost entirely rebuilt by another hand and the chancel altered from a shallow pentagonally apsidal to a square-ended one three bays in length, the old apse windows containing Gibbs's glass were reinstated on the south side with the same absurd feature repeated.

The stained-glass in these windows, about the only feature in the church worth notice, and forming the memorial of a respected incumbent of the Evangelical school, shows a marked improvement on what has just been alluded to in the church at Camden Town. Representing as it does single canopied effigies of Our Lord as the Good Shepherd, between St. Peter and St. Paul in the central window, and in that on either side St. Simon and St. Jude between the Evangelists, the work is pleasing, and had the artist substituted a simple flowered background for the somewhat vulgar canopy work, the effect as a whole would have been materially enhanced.

This church is one of an immense number raised in the extensive parish of Islington within the last seventy years, but of which, with two honourable exceptions,* there is not one that can in justice be referred to as the work of an artist's hand, or that can be called worth entering to examine, ecclesiology never having flourished in this uncongenial soil.

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[*] The following deserve mention :— Several windows in Baldersby Church, near Thirsk, built by Mr. Butterfield for Viscount Downe (1856-58); the east window of Stapleton Church, Bristol, erected from the designs of Mr. J. Norton, principally at the cost of Bishop Monk (1857); a Romanesque window illustrating the Parable of the Good Samaritan in the south aisle of Southwell Cathedral; a window in Pitcombe Church, for Mr. Street, and the east window of Bookham Church, Surrey, for Mr. Butterfield, all inserted about 1858; the series in the choir of St. Peter's Collegiate Church, Wolverhampton, for Mr. Christian; and those in the pretty little chapel with five apses built by Mr. Joseph Clarke for the House of Charity in Soho (1863-67).

[†] A series of drawings of English parish churches, typical of the various phases of Romanesque and Pointed, reproduced from the artist's pencil sketches by Day, and published in 1857 in small folio, but without letterpress.

It would be tedious and unprofitable to chronicle even a tithe of the works in stained-glass executed by Gibbs during the fifties and sixties. A few, therefore, have been selected as worthy of a passing notice, as, for instance, the quintuplet of lancets at the east end of the chapel of St. John the Baptist in Hereford Cathedral, the west window of the south aisle of Winchester Cathedral, the east window of St. Matthew's, Great Peter Street, Westminster, a work of Scott's (1851); the eastern triplet of lancets in St. Jude's, Gray's Inn Road, interesting as being the first church to receive aid from the Bishop of London's fund, and due to Mr. Joseph Peacock; the series of Croly memorial windows in St. Stephen's, Walbrook; and a large quantity in St. Mark's Church, Dalston, a vulgar pseudo Early English building of 1864, a mass of vulgar frippery, full of absurdities, both within and without, and affording an illustration of how the finest sites are too often occupied by unworthy structures, while works exhibiting mastery of conception are poked into obscure places, where, unless persons of taste seek them out and bring them before public notice, they are likely for ever to blush unseen.

(*To be continued.*)

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, W., Mr. G. H. Fellowes Prynne, president, in the chair.

Messrs. L. W. Ensor, N. A. Leech and F. E. Lloyd-Downes were elected members.

Mr. Arthur Bolton read the following paper, entitled

The Dome as the Basis of an Architectural System.

The dome is not only the grandest of architectural features, but may be regarded also, equally with the vault, as the basis of an architectural system.

A tendency exists to regard the dome more as an isolated feature, centralising in character, than as the expression of a principle of covering, capable, like the vault proved to be in the hands of the Gothic architects, of pervading the whole structure of the building to which it is applied. Such a proposition might, we think, be deduced from a survey of the application of the dome in the buildings of more than one epoch, and from examples developed on very varying lines of plan. The requisite clearness of idea, however, can best be maintained by restricting our survey to one epoch, the Renaissance in Italy, and by further selecting two types, which we think may be traced in the churches of that period.

The considerations brought out, however, by the study of the examples given are by no means intended to be confined solely to buildings of that epoch and character. If the idea of a definite principle in the use of the dome be granted, the further value of these examples will consist, not in the particular details characteristic of that period, but in the light thrown on the general problem of the structure, in an artistic sense, of such domical interiors.

Similarly, the restriction of the illustrations to churches only is an accident rather than an essential, a great development of such buildings having taken place in Italy simultaneously with a revival of interest in the dome as an architectural feature.

The modern dome is an Italian creation, and the numberless examples to be found in that country present the series of changes and experiments that mark the introduction of a fresh element in architecture.

With the spread of the Renaissance such studies were carried abroad, and two examples here given from Spain witness to the wide interest of the problem of the application of the dome at that epoch. There is an unfortunate paucity of examples in this country, but the work of Sir Christopher Wren shows the influence of the movement, and though his work exhibits a preference for vaulting and flat ceilings, still singularly interesting results were achieved by him in the application of the dome at St. Paul's, St. Stephen's, Walbrook, St. Mary-at-Hill, St. Mildred, and at two other destroyed churches of a later type.

The duration and wide extent of the Renaissance movement, its composite character and divergent tendencies, render selection imperatively necessary, and difficult as is the task of suggesting lines of development, still the attempt is worth making because of the interest and value that may thus be found in what would otherwise seem to be merely isolated experiments.

There is, moreover, no reason to suppose that the movement has exhausted itself, or that as the basis of modern European architecture in a wide sense it will yet be displaced for a long period. What has happened is that the special interest that was attached to the Order system derived or associated with Roman architecture has lapsed, and that consequently lessons may be drawn from a study of the buildings of the Renaissance independently of the customary architectural features and details of that period.

In the fuller knowledge and interest of the present day in the work of earlier epochs it would be a mistake to regard Renaissance methods of treatment in matters of detail as the only ones suitable and expressive for modern, and particularly church, architecture on a domical basis. Nor, on the other hand, is it wise to refuse any merit or worth to any examples either of an early or late date, owing to a comprehensive prejudice regarding their details.

What "building in a good Roman manner" meant to the Renaissance men is becoming mythical to us who have lost touch with a sentiment due, on the one hand, to a restricted knowledge of old Classical architecture, and, on the other, to the historical and literary associations connected with ancient Rome, while as regards the quarrel between the orthodox and the rebel Rococo school, we are no longer concerned to take sides, but rather to appreciate whatever signs of progress we can detect even beneath a mask of detail that may seem oftentimes sufficiently inappropriate.

Working, therefore, on such lines as those traced out above, we can proceed to select for study two types, to be roughly distinguished as—(1) The Domical Church, and (2) The Five-dome plan.

The first of these types is the result of the application of the dome as the system of covering to a settled form of church plan that had been handed down from the Middle Ages. That the common type of church plan, which is the result, mainly, of the Gothic system of vaulting, modifying previous structures popularly described as basilicas, should be equally affected by a new phase, such as the introduction of the dome, is only logical. It is a fact that may be briefly illustrated by one point only—a matter of primary setting out; such, for instance, as that the basis of the Gothic plan having been a nave of oblong bays and an aisle of squares, with the dome a square compartment, became desirable throughout. Though the nave of St. Paul's shows us that some degree of compromise on this point is possible, still this condition is one of radical importance.

If the test of style in a Gothic cathedral be, as has been suggested, that every part should be vaulted, so also in a domical building the dome should be the chief covering agent. The first type, therefore, "The Domical Church," is one of peculiar interest as the study of the effect of the introduction of a new principle of covering to a settled type of plan, largely the outcome of a preceding system.

The second type, "The Five-dome plan," exhibits the dome in its most characteristic development from the original simple sphere, covering a single apartment. In this form the chief dome is presented in a relation of contrast and proportion to its four satellites, while the originating idea of the cupola as expressive of space is preserved according as the scale of the surroundings has been successfully calculated to enhance the main effect.

We shall find that the two types we have chosen to treat are often overlapping, for obviously, a plan like that of St. Salvatore, Venice, is formed by repeating the five-dome plan in order to obtain the length of a church of the common type, while S. Alessandro may be described as a compromise, being a five-dome plan with an eastward in place of the more usual westward extension. For the purpose of our classification, however, there is a sufficient distinction between the two types, as the five-dome plan is a geometrical form complete in itself, while the domical church is the outcome of the use of the dome as the covering principle for plans of the traditional type.

The subject of the leading domed churches of Europe has been so often and so well treated that we can assume familiarity on the part of our readers with the plans and treatment of the Pantheon, Sta Sophia, St. Mark's, St. Peter's, St. Paul's, &c.; all the more, because in reality they are examples of another type, being mainly built as domes in the sense in which the Pantheon at Rome is a dome, viz. a circular apartment whose effect is due to its spherical ceiling, while our object is to show the changes that result from the application of the dome when used to produce a domed interior of a complex character, one in which the annexes contribute to, but are not sacrificed by the special effect of a great dome.

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* St. Clement's, Barnsbury, the gift of Lord Ashcombe, from the designs of Sir G. G. Scott (1865), and St. Saviour, Aberdeen Park, built and endowed by Canon Morrice, of Salisbury, due to Mr. William White, F.S.A. Sir Charles Barry's three churches of St. Paul, St. John and Holy Trinity, built in different parts of Islington between 1826 and 1828, are, despite their solecisms of detail and defective arrangement, far superior to any with which this vast parish has been equipped since.

In order, therefore, to deal with the subject in sufficient detail, we have set aside, in addition to these great dome churches, the octagonal type also, which, starting from Roman forms and the early baptisteries, passes through such phases as St. Vitale, at Ravenna, and S. M. Angeli, at Florence, &c., to the developed form of S. M. Salute, at Venice, examples resulting in the main from the addition of an aisle outside the primary octagon.

Another type passed over is that of the simple Greek cross, as S. M. Carceri, at Prato (1485-91, Giuliano Sangallo), of which form numerous examples exist in Italy, as until the plan is enlarged to a square by the angles being filled in and treated with minor domes, a line of development can hardly be said to have been started. In reality the two forms, the Greek cross and the Five-dome plan, are distinct types, with probably a separate, if related, origin.

The problems of vaulting left unsolved by the Romans found an outlet in that phase which we call the Gothic style, the essence of which as a vaulting system lay, firstly, in the device for roofing oblong bays by means of pointed arches, thus superseding the clumsy Roman methods of groins of elliptic and double curvature; and secondly, in a special and continuous development of the rib as the feature of the vaulted covering. By Gothic analogy, therefore, that which seems to be necessary for the progress of a style is a certain emphasis of leading points, which will then pass imperceptibly through various phases, often returning in the end to the point of departure. Thus we see the rib running through a series of changes until, in the fan vault, it has sunk to a surface decoration, one of the points, in fact, from which it may be said to have started. Similarly, in a domical system, we might expect that the problem of expanding the simple domed apartment of the Pantheon, on the lines of the complex type of church plan worked out during the Middle Ages, would lead to changes, both in the main characteristics of the dome itself, and also in the plan to which it was applied Nave and aisles are crushed by the space of the dome pure and simple, and the problem took two shapes—one in which a great dome was the essential and the surrounding parts were merely related to it, and served to enhance its value, and the other in which the dome is modified to the existing plan and then becomes, as it were, only a new system of covering, possessing, as compared with the preceding, the effect of surfaces instead of lines, and of space instead of height or length.

In such a process the loss might be great, the simple effect of a great sphere tending to disappear in the multiplication of parts, but the gain should be in the unity resulting from the universal use of the dome in all parts of the plan and in a step taken towards the development of a complete system, as a possible basis for a new system.

That the results of the first efforts were not a complete success does not mean that the problem was an impossible one, but only that the originators could not clear themselves at a bound from those Gothic traditions that explain the structural compromises of St. Peter's and St. Paul's. Half the interest of an inquiry into domical principles, and, indeed, into the architecture of the Renaissance as a whole, lies in the unsolved problems presented. Look at the internal treatment of St. Paul's. What a series of difficulties it admittedly reveals, but how little confidence we feel that our age could have better solved the problems of its architecture.

Before proceeding to concentrate, therefore, our attention on the two types thus marked out, namely, "The Domical church" and "The Five-dome plan," we must consider in a general way the special qualities of the dome.

The essence of the dome internally considered in spaciousness and the majesty and harmony of covering a plan with its own section is most fully realised in the Pantheon at Rome. This effect, however, is accompanied by a lowness of proportion which, after the great height of the Mediæval work, could hardly appear other than trivial.

Moreover, the bondage of the circle is felt, and an enlargement of the diameter produces little extra grandeur compared with the actual increase of size. The first efforts therefore in the use of the dome are marked by a great height, which, though lower than the previous Gothic proportion, was soon felt to be intolerable, and the progress of domical building as it may be traced in Renaissance examples is a record, with some exceptions, of a continued reduction in height of the interior.

In working on such lines the Italian architects were often not hampered by external considerations, elevations being the exception, as their churches are often situated in the centre of blocks of buildings. Moreover, even when isolated the practice of the Roman, and also we may add of the Italian Gothic, architects had accustomed them to a considerable indifference in the matter of external effect. It happens with us, possibly owing to the majestic grandeur of St. Paul's, that the dome has come to be thought of as a great means of obtaining external effect; but a people familiar with the Pantheon as their masterwork might well feel the influence of the dome in a different way.

Hence in this essay we can, for this and other reasons, discard external considerations and treat the subject from the interior as a matter of plan or section producing an internal effect which, however, in any genuine architecture would never be out of due relation to its external appearance. Such considerations may be left as belonging to the future possibilities of domical architecture. From the point of view, therefore, of the interior we shall argue that height, a leading feature in the Mediæval vaulted interior, is destructive of the effect of space, the special character of the ideal dome, and that the constant reduction in that proportion is directed towards satisfying a desire for spacious effect. The problem thus became that of ousting the Gothic influence as a step towards the formation of a new system, whose principle might be that all coverings are domical and not cross vaulted.

This tendency to absorb the dome as a roofing principle led to fundamental changes in its nature. Being brought into relation with the whole plan it is transformed in size and character. Harmony of dome and nave is obtained by reducing both to one key, from which a complex plan arises, as the minor parts must be also covered on a domical system if consistency of structure is to be obtained.

In a domical church the problem of adjusting nave and dome is complicated by the necessity of avoiding too great a contrast of height. For while in a dome pure and simple the whole of the surroundings are merely subordinated to a grand effect of space and height, the domical church by its length upsets the balance and destroys that special effect.

Given a long nave with one or two domes in its length, the resulting vista down the church presents serious gaps due to their height, and to remedy this defect a complete change of character was brought about. The drum of the dome is first given up, then its section is lowered to a saucer shape, and finally it is amalgamated with its enclosing arches. This last process is based on the principle that every plane section of a sphere is circular, consequently the dome is no longer bounded by the enclosing square on plan, but these four arches are really sections through a dome of much greater diameter. We might say that the dome springs with the enclosing arches and that the pendentives are abolished, being now, in fact, portions of the sphere itself. This particular process of domical treatment we propose to identify throughout as "the surface vault," being a term expressing something of its special effect.

By this method a great reduction in height is secured, while the domical principle remains, and the effect is perhaps more characteristic than if, pendentives proper being retained, a segmental saucer be sprung from the crowns of the enclosing arches, which is the only other way of securing a similar result.

This absorbing of the dome as a system may be usefully connected in idea with that characteristic of Roman plans wherein walls of immense thickness seem to have had dug out of them the minor features of their exedras and recesses. We shall return to this point later on when dealing with St. Andrea at Mantua; here we wish only to draw attention to the analogous way in which the timid openings in the square piers of a Byzantine church, such as St. Mark's at Venice, are transformed into the minor compartments of the Five-dome plan. In this there was a principle capable of expansion, for the dome is then carried on open piers related in covering to itself, like parts of a completely domical structure, as under the Gothic system the cross-vaulted bay of the aisle responds to wider and loftier compartment of the nave. This may be said to be a departure of greater promise than that shown in the early form of dome church, as St. Andrea at Mantua, where the plan is that of a dome supported on the barrel vaults of nave and transept, whose length is simply destructive of the main feature to which they are intended to belong. It was an advance in one way to place the Pantheon on to a vaulted hall of equal scale, but it was also spoiling both. It is a greater step to bring both into harmony, and this it was the main effort of the Renaissance architects to accomplish.

The problem, then, of the domical church is this relation of space and length, and it has been partially solved by a reduction in height. This was a gradual process owing to Gothic influences, and to a desire, now and again predominating, to obtain a commanding external effect. As regards the interior even, it may be conceded that the dome reduced to a surface vault, drumless and pendentiveless, loses something of its character, but the gain lies in the binding together of the parts, so that the great arches are of the dome, and the dome of the whole church, while by the introduction of minor domed compartments scale is obtained, and the general system begins to approach the harmony of the Gothic scheme.

It is not pretended that the forms described were new, as they may be found in Roman and Byzantine buildings; but that does not detract from the value of the work of the

Renaissance architects, who were attempting to fuse them into a new system.

Moreover, Renaissance art, being essentially individual, examples cannot be followed out in that sequence which we may find in Mediæval architecture; but though some type may appear in advance, or be carried out with a knowledge and certainty beyond that of a work of almost the same date, still a general tendency can be traced with sufficient clearness, and may be followed up with advantage.

Many of the forms and features described may be traced, often crudely, in the studies of the first architects of St. Peter's as displayed in Baron Geymuller's book on that subject. Thus Antonio Sangallo's "Study for a Nave" shows a treatment of domes on the surface vault plan which is highly interesting.

One may, however, suggest a caution not to look at such sketches too much in the light of subsequent knowledge, or we may be attributing to their authors a more advanced skill than their work would have displayed, had it been executed.

Type I.—The Domical Church.

We enter then upon the consideration of our first type, that of churches more or less completely designed on a domical system, after having cleared the ground by the foregoing preliminary consideration of some of the elements of domical architecture.

Our first example, the church of St. Andrea at Mantua, begun by Alberti in 1472, is remarkable in the history of art as the first modern church with a dome.

The reason, however, for including it in this place is, that its system of enormous walls, within which chapels are as it were dug out, brings it into relation with the plan of carrying domes on pierced square masses, which has been already discussed. For, if we imagine the tinted squares placed the square of the nave apart and then opened up, we have the plan of St. Salvatore Church.

In St. Andrea the side chapels are arched over below the entablature, which carries a continuous barrel vault, and the tinted squares, having only small doors of access, form no part of the internal effect. They are thus waste space, in fact, while preventing any circulation outside the nave. These compartments, moreover, must be as high as the chapels themselves between, unless a minor gallery were arranged over them, somewhat as in the Jesuit church at Rome.

It is not too much to assert of this example that the plan is eminently one awaiting expansion, and that it possesses a high value as an originating work.

St. Andrea is a church, moreover, which must be seen for its effect to be fully realised, otherwise it is hard to understand why it is one of the noblest of all the Renaissance churches, possessing some magic of simplicity and proportion, which affect the spectator with a dignity and grandeur that might not be appreciated from a mere inspection of the design on paper. In its enormous solidity of construction, it is a direct outcome of the revived interest in the grandiose ruins of Rome.

The Carmine Church at Florence.—The nave is late in date, being rebuilt in 1771, and, not important from the point of view of domical design, is given here as an instance of a similar but reduced treatment of thick walls and a single nave. The supports in this case are smaller, and the chapels are made perhaps more useful in the general effect by their half-dome heads carrying up the eye to the main vault. The æsthetic difficulty of the single span church is the tendency of the walls to lean outwards in appearance, and the partiality of the Gothic builders for arcades has been ascribed to a perception on their part of the correcting influence of curving lines. Consequently the treatment in this instance is a good example of what may be done in such cases, while the alternation of solid and void in good proportion is the probable explanation of the appearance of great size which this nave possesses.

St. Giovanni Battista, Pesaro (1540, G. and B. Genga) shows the other type of internal buttressing. The well-known church of the Redentore, Venice (1576, Palladio) has practically this plan, but masked by the use of the revived orders, the side chapels becoming the deep arches of a Roman arcade, from the Coliseum.

This digression on the simpler problem of the one-span church has its use in that our first type, "The Domical church," is a derivative of the large hall, without, however, reaching a stage of greater development until, by the formation of aisles, the problem becomes more complex. It is the call to adapt the dome and the traditional church plan that is responsible for the more interesting attempts that followed. There are in Italy and elsewhere a number of Renaissance interiors of the normal Latin cross plan without aisles, which most often are replaced by side chapel recesses. Such examples, though possessing a dome at the crossing, are not domical churches proper, but from them there is a development, perhaps best illustrated in Rome itself, in which these side chapels are enlarged to squares, and carried up for separate domical treatment as in the church of the St. Apostoli (1702-24, Fontana). Remarkable effects of lighting can be obtained where these compartments are top-lit, but the general unity of the interior is broken up by such semi-isolated features.

The great height of the bays of the side aisles of the nave of St. Peter's (1606-12, Carlo Maderna) shows an approach to this idea.

The plan of St. Carlo in the Corso (1612, Onorio and Martino Lunghi) is as though such a series of chapels were thrown together to form a wide aisle in front of the usual chapel recesses, the passage way being carried right round the semicircle of the apse. Each domed compartment is separated by bays the width of the arcade piers, and in working round the apse the cupolas become oval in plan, while the separating bays are slightly radiating.

As is well known, the application of the dome solves in the easiest way some of the problems of chevet vaulting.

It is worth while to mention this example when considering the subject of domical churches, because the wide aisle has been a subject of experiment in modern work on account of certain advantages in seating accommodation, and it is conceivable that the domical idea could be well utilised in such a type of interior.

The aisle question will be found to exclude large batches of domical examples of more than one period and style.

The fourth example, St. Salvatore, Venice, commenced on a scheme by G. Spavento, approved in 1506, was carried on and completed by Pietro and Tullio Lombardo in 1534. It is the largest and most important of a series of studies in the application of the dome, the outcome of the influence of St. Mark's, and probably of other smaller churches in Venice of that period and character. The centre of St. Mark's was seen to constitute a complete conception in itself, and the expansion and development of the Byzantine model was followed out by the Renaissance architects in Venice. The square pier masses, which in St. Mark's and other examples of the style carry the domes, are cut away to mere legs, leaving a good aisle on either side of the nave, but the treatment in detail is such as to retain their character as supporting piers. Internally they are domed either with surface vaults, as in St. Giovanni Crisostomo (1497-1504 by Moro Lombardo), or have cupolas sprung from a string over the arches, as in St. Salvatore. These piers are the key to the whole interior, as a definite relation should exist between them and the main dome, both in scale of plan and in height of section. This is a consideration further dealt with in the second part dealing with the Five-dome plan.

St. Salvatore, though a small church, is remarkable for structural harmony and elegance, due probably to the almost exclusive use of the dome as the covering agent.

This church is supposed to have exerted considerable influence on our next example, St. Giustina, at Padua, the model for which, by Alessandro Leopardi, was accepted in 1521. On his death in the latter half of 1522 or beginning of 1523 the work was continued, but it seems likely that changes, at any rate in the detail, were made. Andrea Morone, engineer, who was appointed in 1532, is responsible for the upper parts. There is a heavy and clumsy character about the work, especially in the covering, which it is difficult to associate with the architect of the Colleoni pedestal, and the mast standards of the Piazza at Venice, also works by Leopardi.

It would seem as if the scheme of St. Giustina had been biased by the designs for St. Peter's, founded in 1506; as though it were a compromise between the development proceeding in Venice and the more grandiose ideas current in Rome.

The defect of the Paduan church is that its length is obtained by the crude device of repeating the main dome three times down the nave, of the same diameter, but very much lower in height. The nave domes are divided from each other only by a single pier with narrow arch band. This pier is buttressed by an arcade across the aisle, and has the effect of a mere partition wall, while the central dome, though of equal span, has a compound pier and ample width of barrel vault to rest upon. This is an inadmissible distribution of the supports from an artistic point of view, the nave appearing too light in constructive effect, while the crossing seems clumsy. There is, in fact, a want of unity in the plan, which may be broken into two portions.

The five-dome treatment of the crossing resembles that of St. Maria Campagna, Piacenza, in that the four minor domes are shown outside, the resulting height producing internally a most well-like effect.

This church is notable in that it possesses some degree of external character. The west façade is still in the rough, but the nave outside is treated in what may have been the style of the Roman thermæ, and being in simple brickwork is not ineffective, presenting perhaps an idea of what those great Roman buildings may have looked like, supposing that they were left unplastered.

The church of the Benedictines, St. Nicola Catania, is on very similar lines to St. Giustina, but is better worked out in detail. The division between the two domed bays of the nave is here much strengthened, while the single instead of double setting out of the side chapels is more in harmony with the scheme of the plan. This example is on a great scale, about 350 feet by 210 feet, producing a striking internal effect with some perspective capabilities. Built 1558 to 1578 by P. Valeriano of Catania, it was restored on the old lines after an earthquake a century later by Gian Battista Contini.

(*To be concluded.*)

THE INFLUENCE OF FRANCE UPON AMERICAN ARCHITECTURE.*

THE consideration of the influence of French architecture upon that of America is too large a subject to be properly handled in the compass of a brief paper. From the days of the Revolution, when the support of Lafayette and his followers brought the two countries into close relations of friendship, this influence has been a factor in our architectural development—or in the changes from which until lately we may be said to have suffered. To discuss it fully would require us to consider the story of our architecture during the present century, as well as that of France. It is, nevertheless, only within the past thirty years or thereabouts that French influence upon American architecture has counted for much, and it is a still briefer period since it has anywhere in the country shown signs of predominance. What it at present concerns us to inquire is rather how far the strong French influence which has lately shown itself (in some quarters amounting to an organised propaganda) is wholesome, and how far it is a source of dangers to be avoided—how far its results seem to be beneficial and how far they are to be deplored; and especially it behoves us to consider in this regard the present state of architecture in France as compared with its condition, say, for instance, twenty or thirty years ago, and the kind of influence which at this moment it seems to be exerting upon us.

Even when we have thus limited our inquiry we shall, in order to approach the subject intelligently, be obliged briefly to recall the main facts in the history of the influence we are to discuss.

At the beginning of the century the architecture of this country was still for the most part in the hands of simple craftsmen who were carrying on the traditions of the colonial period. But the loss of traditional skill among the craftsmen themselves and the rival and confusing claims of Greek and Gothic revivals rapidly produced that condition of chaos and entire absence of wholesome tradition which made the advent of the educated and professionally trained architect the only way out.

American architecture suffered grievously during more than the first half of this century through the want of properly-trained practitioners. There were few men able to design even respectable buildings, while the public, more and more surrounded by and accustomed to ugly buildings, and without the guidance of competent leaders of taste, lost all ability to distinguish between the good and the bad. Under these circumstances, with our shifting population and the sudden acquirement of wealth by new families, the ravages of shoddy commercialism, of vulgar and meretricious shams, were greater here than anywhere else in the world. All architects will probably readily admit that we are even yet not entirely free from this contagion, which makes showiness and novelty, not real excellence or beauty, the standard. During the early years of the century a few names stand out brightly, notably, Jefferson, Bulfinch, Thornton and Isaiah Rogers, and for some time good traditional work continued occasionally to be done. In the main, after about 1820, the succession of architectural fashions showed a ghastly parody of the work going on at the same time in England—work, some of it, weak enough in itself. During this period appear the names of a few French architects. At the beginning of the century their work did not differ essentially from that of the English architects who found their way hither or from the few educated Americans, for at this time Roman classicism (variously understood) reigned everywhere, and as long as it continued exercised a wholesome restraining influence. In the chaotic days of the forties, fifties and sixties French names very rarely appear, and the only marked evidence of French influence was in the advent of the so-called French roofs, which appeared for the first time, we believe, in the Deacon House in Boston, built about 1850, the work of a French architect named Le Moulnier. The American builders of those days were sure to make ridiculous even their attempt to imitate good things; but this somewhat unreasonable contrivance, aided by the jig-saw, became in their hands the source of more ugliness than even America has otherwise seen.

Into this chaos gradually and in increasing numbers came during the sixties and seventies the educated architects. They came from two main sources. On the one hand from England, or under more or less direct English influence, partly by the immigration of Englishmen trained in the ideals of the English Gothic revival, partly they were Americans who in English offices or through travel had received a similar training. The second source was France, and this influence was brought to us directly at this time by Mr. Richard M. Hunt, who, as we all know, received his education at the Ecole des Beaux-Arts, and who, apart from his powerful personality, owed his great prestige in the profession mainly to his having been the first American architect who had received a systematic academic training for the art he professed. A number of architects, among them several who, as we all know, are still leaders in the profession, were trained in Mr. Hunt's atelier in New York or went to Paris to study for longer or shorter periods in the Ecole. In 1867 the department of architecture at the Massachusetts Institute of Technology was opened under the direction of Professor Ware, and the scheme of instruction was frankly based on that of the Paris school, adapted to meet the very different circumstances and requirements. In 1871 M. Eugène Létang came from Paris to take charge, under Mr. Ware, of the work in design. Since then every important school of architecture that has been founded in America has sooner or later followed, more or less closely, the same model. Indeed it may be said to be all but universally acknowledged that the French system of instruction in architecture is the best in the world. Meanwhile an ever-increasing number of Americans have been educated in the French school itself, some of them receiving there their whole training, others going to Paris after completing the course at one of the schools of architecture at home. Not a few have graduated from the Ecole des Beaux-Arts, until now there are very few trained American architects who do not owe much, directly or indirectly, to that world-famous school.

When we consider the formless and chaotic condition in which American architecture for the most part found itself even twenty years ago, and the part which architects of French training have played in the striking improvements which have taken place since, it is perfectly obvious that America owes an enormous debt to France in this respect, a debt which was appropriately recognised a few years ago in the foundation at the Ecole des Beaux-Arts of the Prix de Reconnaissance Américaine, a prize which is open only to Frenchmen. But this recognition does not by any means involve the conclusion that French influence has been an unmitigated blessing.

During the period in question great changes have taken place in France itself, changes of which it is essential we should take account in forming an opinion as to the value of French influence at this moment.

In spite of its fine qualities, almost unrivalled in the modern world, there has been constantly apparent in French architecture since the time of Louis XIV. a note of extravagance, of theatrical display, of redundant and sometimes tasteless ornament, which has frequently injured some of its finest productions; but there have nearly always been men like Labrouste, Daumet, Vaudremer, who have, by precept and example, set their faces against this extravagance. But the wave of indiscriminate admiration of the vagaries and vulgarities of Rococo architecture which has of late swept over the civilised world like a plague, has made itself felt nowhere more strongly than in Paris, and the mad craze for novelty for the sake of novelty has run riot in an extravagance of hautes nouveautés which is enough to make Labrouste and even André turn in their graves. This phase of fin-de-siècle decadence has made itself especially felt in the designs for the forthcoming Paris Exposition, which, magnificent as it is in conception and general composition, is producing structures almost delirious in their unreasonable and wanton ugliness. There are, of course, men still doing superb work, like Nénot, for instance, in his New Sorbonne, and the sound traditions of French training still make themselves felt amid all the extravagance and vulgar search for the merely novel—miscalled originality. But the main tone of French work at this moment, the main trend of taste at the Ecole, has sadly changed since the ateliers of André and of Vaudremer, at opposite ends of the scale, were typical. This change, like every phase of human development, is expressive of the condition of the community that produced it. This decadence of taste, which must be evident, one would think, to every unprejudiced and competent observer, is of a piece with the social depravity which has produced the salacious French novel and the corruption that shows itself in Panama scandals and Dreyfus affairs. The want of sane, wholesome life, of high and pure and sweet ideals, which the best Frenchmen themselves openly deplore, has its inevitable effect on taste in the fine arts. The jaded and sated palate calls for some new sensation, and the result is all the more deplorable because of evident ability and training prostituted.

Let us now briefly consider some of the fine qualities which have been, and still to some extent are apparent in French architecture, and then let us look somewhat more narrowly at the present French ideals and see whither they are tending.

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* A paper by Mr. H. Langford Warren, of Boston, read at the Thirty-third Annual Convention A.I.A., at Pittsburgh, Pa., and published in the *American Architect.*

The training of the Ecole des Beaux-Arts, shaken though it had been by the neo-Grec movement of the middle of the century, and in spite of extravagance which already showed itself, was still, even twenty years ago, synonymous with the somewhat rigid traditional classicism which had been so powerfully inveighed against by Viollet-le-Duc. Cold and unsympathetic as it sometimes was, it had, at any rate, this advantage, that it tended to curb the growing tendency to license, and that it was a safe medium for instruction in the fundamental principles of architecture. New forms and modifications were looked at somewhat askance and were only gradually admitted, as it were, to recognised standing. It was somewhat unyielding and its notion of correctness of style was still mainly a matter of tradition. But what then as now constituted the strength of French training and practice was its insistence on composition, its excellence of proportion and mass, and, above all, its splendid mastery of monumental planning. It taught careful consideration of fenestration, the study of light and shade, the effective placing of ornament, and showed that rhythmic proportion has relation to all these. It insisted that a building must tell its story; that it must be expressive of its purpose, and that the exterior must be expressive of the interior arrangement of the plan, which is the key to the whole composition. Interior and exterior plan and elevation must work together to produce one organic and rhythmically connected whole. In insisting upon these things, it was teaching that architectural design depends not upon caprice, but upon principle, and it gave, up to a certain point, some understanding of what these principles are. In doing all this it inculcated, though perhaps not always clearly, the fundamental laws upon which good architecture, upon which fine art of every description has always depended and always will depend. And it taught and still teaches what, perhaps, after all, is for the impatient American the most important lesson, that good results in the fine arts are only to be attained, in the first place, by long and patient and severe training; and, in the next, by equally patient and painstaking study and restudy of each problem as it arises. On the other hand, the principles taught seemed to stop at the ornament, as if the smallest part of any work of art could be subject to any other laws than those that must govern the whole, or as if one part must be a matter of principle while another could be a matter of mere tradition or of caprice. The ornament—most of the detail, in fact—though often carefully studied and always delicately executed, was apt to be either meaningless and extravagant or coldly traditional in its form.

Moreover, the training of the Ecole, while thorough along its chosen lines, was narrow, so that those brought up exclusively under its influence were generally strangely ignorant of all forms of architecture except those which were traditional within the school. They had made no adequate study of the historic styles and so had no understanding or appreciation of the way in which the immutable principles of design expressed themselves in other forms and under other conditions. Their experience was so narrow that the laws of design could not be thoroughly appreciated as the result of principle, and these laws thus became in their hands little more than a set of academic formulæ. The designs produced and the judgment formed were alike too apt to be the mere conventional result of conventional rules the reasons for which were but dimly apprehended.

The inevitable revolt against this rigidity grew apace, and the reaction under existing conditions in France has led to that license of design which we have already characterised, and which has gone so far that the use of any traditional form seems now to be regarded in some quarters as a sign of slavish devotion to precedent, an indication of want of thought, an evidence of complete lack of originality. The fundamental laws of composition are still taught as before; but originality, so called, mere capricious novelty, has become the standard rather than beauty and reasonableness. The changes brought about have not been the result of organic growth and development, but have been produced (to use the apt phrase of Professor Hamlin in his history of architecture) by "the striving for originality and the effort to discard traditional forms." Its ideals are no longer those of purity and expressiveness of architectural form, but of novelty. Expressiveness of a kind is indeed aimed at, but it takes the unimaginative form of, for instance, ornamenting the exterior of an army and navy building with cannon balls, gun cartridges and conning towers, put on without the slightest regard to the architectural purpose of the parts to which they are applied.

If there is one thing that the American public has needed for the improvement of its taste in art, it is to be taught that there is something better than novelty and change; that what is beautiful and reasonable is the ideal to be aimed at, not to be "up-to-date" or "in fashion." It needs to be taught that the finest things in art are usually the simplest—those things which at first sight seem easiest, most obvious, most natural—not those things which by their overloaded ornament, their bizarrerie, their theatrical posturing cry out for attention. We need to appreciate that those qualities which make fine manners also make fine art—restraint, repose, naturalness, graciousness.

We have been learning these things, but are not helped forward by indiscriminate admiration of this latest and least admirable phase of French art.

It is curious that those who are loudest in its praise are those who least of all show signs of putting one of the chief precepts of its doctrine into practice in this country. This doctrine teaches, and rightly teaches, that a country can have a vital art only in so far as it solves its own problems in its own way, expressing freely its own ideals in meeting its own wants. The art of France is held up to admiration as being such a vital art. This is to a degree true, and that art expresses French ideals, French taste—and also French depravity. Now we do not take a single step towards producing an art of our own by a direct importation in all its details of the forms of French architecture, which have nothing whatever to do with the principles taught in the French school, but are the mere accidents of environment. On the contrary, whatever beginnings of vital work are found in our midst are strangled by such direct imitation, and it is worth noting that the most successful and characteristic developments of American architecture, the commercial building and the country house, do not depend in the least on direct French precedent. Indeed, the country house is a problem which modern French architecture seems incapable of solving in an interesting way. But it is argued that we must make a beginning somewhere, and that the best we can do is to take the best style of modern times as a point of departure. The French style meets our wants most nearly, it is argued, because it is the most modern. This is a manifest non sequitur. Moreover, as we have noted, we had made beginnings to which this direct French importation comes as an interruption, which, if successful, would make us architecturally a mere province of France. Town-halls which look like French mairies are manifestly un-American, and are felt to be exotic, out of place. Buildings which precisely recall the Parisian boulevards are obvious indications of lack of ideas and lack of vitality in our own art, and this would be true were French art far finer than it is.

The road to reasonable independent development does not lie this way. The love of extravagance and the desire for mere novelty on the one hand, and the close and unreasoning imitation and copying of the work of others, ancient or modern, on the other, are the Scylla and the Charybdis of American art. It seems to me that the recent French propagandism contains both dangers.

What we need is to understand more and more fully those fundamental principles of our art which underlie the best work of all times and all styles; to understand and know thoroughly the architectural forms of the past and appreciate how in them these principles were expressed; to use these forms in our own work freely, varying from them not capriciously, but according to principle, as changed conditions, changed modes of construction, changed ideals seem to require. Working in this way the modifications which come will not be forced but natural, and will have that quality of inevitableness which is inseparable from vital work and is one of its greatest charms.

We have learned much from France, and yet have much to learn; but let us not take from her indiscriminately.

In so far as the French influence helps us to sound methods of education; in so far as it teaches us composition, monumental planning, the importance of balance and proportion in plan and mass; as it leads us to regard our buildings as organic unities, and to make exterior and interior hold together as rhythmical component parts of one whole; as it leads to careful consideration of fenestration, of light and shade, of scale relations, as it discourages hasty and slipshod and ill-studied work; in so far, in short, as it helps us to principles and to devoted and painstaking study, its influence has been, and will be, helpful and wholesome.

But in so far as it leads us to mere copyism of the externals of recent French buildings; in so far as it leads us to seek novelty in place of excellence; in so far as it encourages a taste for extravagant and overloaded ornamentation, and tends to destroy delight in simple and quiet work—in so far as it does these things, the French influence is deeply to be deplored.

But I have little fear for the result. We have in this country made great strides, and, I believe, shall continue to progress. The pendulum swings back and forth, but the fingers move onward. The evil that we have suffered (and it seems to me we have suffered from an over-admiration of a style that has grave defects as well as great qualities) will, I venture to think, prove temporary, while the gain will be permanent. The French copyism is a mere passing fad. The principles that have been learned we may hope to keep.

Those who have been educated exclusively under French influences and have imbibed French ideals so completely that they have failed to see clearly the limitations of French work will inevitably in time be influenced by their environment and by the work of those of other training. Already we may discern signs that this is the case. Both sides will gain from both, and the resultant will be different from anything we can now foresee.

By way of conclusion, and speaking now merely of the training in the French school, these two considerations may be suggested :—That since discrimination needs to be exercised with regard to French work, it is best that impressionable students should not come under its direct and exclusive influence until they have had such training as may enable them to discriminate, until they have been taught to think and reason for themselves with regard to their art, and that the schools we now have in this country afford ample opportunity for such training ; and, secondly, that if we are to have an architecture in any true sense national, if we are to be architecturally anything more than a mere province of France, we must shortly cease to be dependent to the extent we now are on the French school.

LIGHT AND AIR.

AFTER Mr. Emden had read the paper on "Light and Air," which was published last week, before the Sheffield Society of Architects, a discussion followed.

Mr. Holmes, in proposing that the thanks of the Society be given to Mr. Emden, said they all agreed with the serious condition of affairs that arose in consequence of the delay that the law entailed. Sometimes, in endeavouring to protect the lights of surrounding property by writing to adjoining owners, they invited frivolous actions. Many actions were no more nor less than blackmail. He was in favour of such questions being brought before a local tribunal, but he was rather jealous about giving more power to municipal corporations. They had had enough of grandmotherly legislation in Sheffield. He thought the difficulty might be got over by the establishment of a court consisting of legal and professional men.

Mr. Gibbs, in seconding the motion, was also of opinion that it would be a mistake to put the matter in the hands of the Corporation, who had probably quite as much as they could undertake.

Mr. A. Wightman said he would adopt a more drastic method of dealing with the question. Never in the whole of his experience had he known a case where a right to light and air had not been stolen or secured without the knowledge of the owner. He had never seen a grant of light and air by deed. His idea was that the law should be altered so that every man should have the right to build as high as he chose on his own land, subject, of course, to the usual municipal regulations.

Mr. Binney remarked that he would not have much confidence in the tribunal suggested by Mr. Emden. They would not get the collective wisdom of the Corporation, but the matter would be delegated to a committee or sub-committee.

The Chairman said he did not see why they should not have a technical court, constituted of representative architects, surveyors and solicitors, having the right to call upon the Corporation for the use of the plans deposited for municipal purposes.

The vote of thanks having been carried, Mr. Emden, in reply, said his suggestion was that the Corporation should appoint the officers to deal with questions as they arose. They might have a solicitor or barrister, a surveyor, and an architect to form a tribunal, the three being local men. They would work independently of the Corporation. He referred to the work of the Dean of Guild in settling building disputes in Scotland. He said those courts had worked well there, and he hoped to see such courts as he had referred to established in this country.

GLASGOW ROYAL INFIRMARY COMPETITION.

A MEETING of the executive committee of the subscribers to the Queen's Diamond Jubilee Fund and Glasgow Royal Infirmary Reconstruction was held in the City Chambers on the 12th inst. Sir David Richmond (convener) presided, and there was a full attendance. The minutes of the previous meeting of Dec. 13 were read and approved. They set forth that the executive had received from the sub-committee two block plans prepared by the infirmary managers showing how the site may be utilised in accordance with the approved modern requirements of a first-class hospital, but as being illustrative and suggestive only, and as not intended to tie down the architects to them ; that the sub-committee had also submitted terms and conditions for the competition to be entered on for the plans and elevations of the new buildings, which were approved ; and that they had been instructed to complete the remit to them by submitting the names of architects—to such number as they might consider desirable—whom they would recommend to be invited to enter into the competition. At the meeting the minutes of the sub-committee of December 18 were submitted, recommending twelve architects to be invited to compete for the plans, and on the suggestion of a member another name was added to the list. The minutes, with this addition were unanimously adopted. The following are the architects selected for the competition :—Messrs. John Baird & James Thomson, 88 Bath Street, Glasgow; J. J. Burnet, 167 St. Vincent Street, Glasgow ; H. E. Clifford, 178 St. Vincent Street, Glasgow ; Campbell Douglas & Morrison, 266 St. Vincent Street, Glasgow ; William Leiper, 121 West George Street, Glasgow ; James Miller, 223 West George Street, Glasgow ; R. Rowand Anderson, LL.D., 16 Rutland Square, Edinburgh ; Hippolyte J. Blanc, 73 George Street, Edinburgh ; Sydney Mitchell & Wilson, 13 Young Street, Edinburgh; Edwin T. Hall, 57 Moorgate Street, London; John W. Simpson, 3 Verulam Buildings, Gray's Inn, London ; Alfred Waterhouse, R.A., 20 New Cavendish Street, London ; Young & Hall, 17 Southampton Street, Bloomsbury, London. A neutral architect of standing is to be appointed to assist the committee in deciding on the most meritorious plans, and an honorarium of 100*l.* is to be paid to each of the unsuccessful competitors. The City Chamberlain was requested to communicate to the architects named an invitation to take part in the competition.

TESSERÆ.

Colour on Gothic Buildings.

IN the great Gothic churches colour has rarely been employed on the exterior, except in a few cases, and always in a restrained manner and without injury to the general harmony, for the colour we meet with in porches and in niches is altogether insignificant ; and besides, there is nothing to show that it was not added long after the erection of the structure where it was found. One of the things most to be admired in these vast edifices is the art with which they have succeeded in actually doing without colour, by having recourse only to architecture and sculpture, to give to the exterior of the edifice a variety which in no respect injures the imposing effect of the whole; for the elevated walls of the nave and those of the aisles parallel to them, are they not remarkable? First, when we regard the great windows, which in interrupting the continuity destroy that sad and disagreeable aspect possessed by every large wall which is not pierced with light ; and, again, when we regard their mutual connection by means of light arches which, sustained on the one part by the buttresses of the nave, and on the other by the pillars which rise from the walls of the aisles surpass it in height, and by their projection without contribute so effectually with the windows and their ornaments to remove all monotony from the lateral façades of the edifice ; are they not also remarkable, even where there are no lateral entrances with regard to general harmony, by the manner in which the windows and their ornaments, the pillars and their flying buttresses, connect with the façade of the nave, where at the first aspect it would appear that the architect had concentrated all the ornament, so varied, light and slender, which decorates it.

The Parthenon.

The Parthenon, as a whole, had originally no common name; and the only part of it that had a name available for the purpose, viz. the chamber behind the cella, was the Parthenon, as one can easily see. When the term began to he used in the wider sense is not very clear. Demosthenes uses it, but whether in the wider or narrow sense is not manifest—probably in the latter. It is used by Strabo and his contemporaries in the wider sense ; but even so late a writer as Pausanias uses it with caution, always prefixing to it a "so-called," or something equivalent. This is a matter, however, that hardly concerns us. It is enough to have shown that the Parthenon was distinct from the Hekatompedos, in which stood the so-called Parthenos. We venture now to say "so-called," because there is no proof or likelihood that the term Parthenos was applied to the great chryselephantine statue of the Athênâ until after the name Parthenon was extended to the whole temple. That in the mouths of the people the inhabitant of the Parthenon should come to be called the Parthenos is most natural. The name was, however, never officially recognised. It does not appear in any of the inventory inscriptions. It is not used by any ancient author before Pausanias (A.D. 180); and even he never uses it without prefixing to it a "so-called" or "by the Athenians so called." It is perfectly evident, therefore, that the term Parthenos was a mere popular designation, and not the official or proper name of the statue to which it was applied. It does not, therefore, give us any clue to the purpose of the statue, or of the temple which contained it. Parthenos, being a characterising epithet of Athênâ in all her relations, was applied, of course, to all her statues indiscriminately. The Parthenon, with its chryselephantine statue, was simply a great trophy in the form of a memorial hall erected to Athênâ, in gratitude for the assistance she was supposed to have rendered to the Greeks at the battle of Salamis, and the new position in which Athens had thereby been placed with reference to the rest of the nation.

Norman Buildings.

The Norman architects displayed their liberality and skill in all the buildings which they erected. Chapels and churches, small houses and palaces exhibited doorways, windows and sculptures, designed and wrought with the utmost care and the most finished taste. Strength was an indispensable requisite—strength often to superfluity—but in some cases it saved labour (for our ancestors were sometimes economists), and it insured for many ages the safety of their buildings. Material was of little account, and labour, perhaps, of not much more, but huge beams were often applied where half the quantity would have sufficed. Thus the labour of sawing was avoided, and the scantlings of masonry were not more nicely regulated. It must be admitted that the ancients had the advantage of the moderns in the uniform choice of good materials. They seem to have used only one of the several kinds, and that the best, and when to this they applied sound workmanship, and adopted a method or style, applying with it so much taste and judgment that the designation of their buildings cannot be mistaken, we have reason to admire their abilities as architects, and assuredly their works are worthy of our praise and imitation.

Painting and Music.

A picture is a thing the incidents of which are carried merely over space, and have nothing to do with more than an instant of time. Music, on the contrary, is an affair the incidents in which are carried over time, and in which space is not considered, but which notwithstanding, as far as recognised, may be compared to a stream, the minimum width of which is represented when a single note only, in extreme attenuation, occupies the ear, and the maximum width of which occurs when the fullest harmonies are rolling under their greatest depth of tone. In music the ear is occupied one moment with that which it ceases to entertain the next; and this circumstance enables the composer in one piece to perform transitions through many keys, according to certain laws, at first sanctioned by the pleasures of the ear, but now found to be accompanied by coincidences of simultaneous vibration. In painting it is quite a different affair; the eye does not cease to be occupied one moment by that which it entertained in the preceding one. On the contrary, it is acknowledged that a picture is, or should be, addressed to the eye *in toto*. It is the affair of an instant of time; its colour is merely one of the embellishments of that instant; and though it may contain the fullest harmony, it should be the harmony of one key, if one feeling is intended to be produced by it; there being nothing of the contemplated elements of the instant of time and the certain limited surface of a picture, sufficiently analogous to a series of chromatic deflections and absolute transitions from one key to another in music, to warrant any digression or perform a resolution the necessity of which, in music, such digression would require.

Systematic Study of Architecture.

No man can ever hope to practise successfully who does not study profoundly the relics of the past; and therefore it is that we should hail with satisfaction every event, accident or contingency which may tend to bring the materials for such study, with greater prominence, pungency and facility under the eyes and attention of all engaged in the cultivation or practice of architecture. We should remember, too, that employers and users need knowledge just now fully as much as professional students of our art; and that in these days when the very superabundance of graphic models of architectural form thrusts "Eclectism" upon us, whether we will or no, we should neglect no means which may aid us in classifying and systematising in our memories the examples which photography, engraving, models and all the varied resources of graphic art force from day to day upon our attention. In all natural sciences, as varieties are discovered, classification becomes more and more imperatively necessary. Units become grouped into families, and exceptions from standard and well-recognised genera are at once detected, and form bases for new generic subdivisions. Just so in the culmination of the study of our art, we may imagine the architect classifying the infinite groups of form presented by ancient monuments, and thereby establishing his own system of landmarks for the appreciation of the precise artistic value and proper grouping of all the aberrations from established types which he may either meet with in the works of others or invent for himself.

Town and Country Houses.

Architecture in towns may be said to be principal and independent; in the country it is in some degree subordinate, and dependent on the surrounding objects. This distinction, though not sufficient to form a separate class, ought not to be neglected; had it been attended to so many square, formal, unpicturesque houses of great expense might not have encumbered the scenes which they were meant to adorn. It is not surprising, however, that the style of country houses should have been too indiscriminately taken from those of towns. All the fine arts have been brought to their greatest perfection where large bodies of men have been settled together, for wealth, emulation and comparison are necessary to their growth. Of all the arts, architecture has most strikingly embellished the places where it has flourished; in cities, therefore, the greatest number and variety of finished examples of architecture are to be found, and it is not to be wondered at if those houses which in cities were with reason admired, should have been the objects of general and often of indiscriminate imitation. There are, however, very obvious reasons for making a difference of character in the two sorts of buildings. In a street or a square hardly anything but the front is considered, for little else is seen, and even where the building is more insulated it is generally more connected with other buildings than with what may be called landscape.

GENERAL.

An Exhibition of English paintings has been opened in Berlin. The following masters are represented in it:—Beechen, Bonington, Constable, Gainsborough, Hoppner, Jackson, Lawrence, Lee, Morland, Raeburn, Reynolds, Romney. The majority of the works are landscapes by Constable.

M. Chatelin, president of the Syndicate of Contractors for Public Works in France, has obtained the ribbon of the Legion of Honour.

Three Exhibitions are to be held at the Ecole des Beaux-Arts, Paris. The first will present the works of Alfred Stevens, the Belgian painter, and will continue open during February; the second will be devoted to Japanese masters, from April 23 to May 15; and the third, with the works of Watteau, will be held from May 17 to June 13.

A Company, to be known as the St. John's Freehold Estate, Limited, with Mr. Ellis Robinson, builder, as chairman, and a registered capital of 10,000*l.*, has been formed to carry out a large building scheme at Wakefield. The St. John's estate, which has an area of 65,000 square yards, has been purchased and will be laid out for the erection of residences.

The second members' meeting of the fifty-second session of the Liverpool Architectural Society will be held at the Law Library, 14 Castle Street, on Monday next (the 22nd inst.), at 6 P.M., when a paper will be read by M. Honan on "Doors and Doorways."

Mr. A. Roberts will read a paper on "Designing of Electric-Light Generating Stations" before the Society of Architects on Thursday next.

An Institute, which has been presented to the parish of Ticehurst, Sussex, by Mr. Campbell Newington, and been built from the designs of Mr. Aston Webb, A.R.A., has been opened by Mrs. Campbell Newington. A recreation-ground also forms part of the gift.

A Faculty was granted on Tuesday authorising the pulling-down of St. James's Church, Muswell Hill, the erection of a new building on the site, and the sale of such material of the old building as was useless for the new.

The Council of the Royal Society of Painter-Etchers and Engravers have elected M. Béjot, E. Decker and E. Chahine as associates of the Society.

Mr. W. P. Hartley has offered to give 12,000*l.* to build and equip a botanical laboratory at University College, Liverpool.

The Session of the Anglo-American Archæological Society in Rome was opened on Tuesday last, when Mr. Baddley read an address.

A Course of Twelve Lectures on Architecture will be commenced at the Metropolitan School of Art, Dublin, by Mr. Cecil Orr.

The Sheffield Town Council have decided to purchase fifty-nine acres of land at High Wincobank for 9,100*l.*, in order to erect artisans' dwellings on the ground.

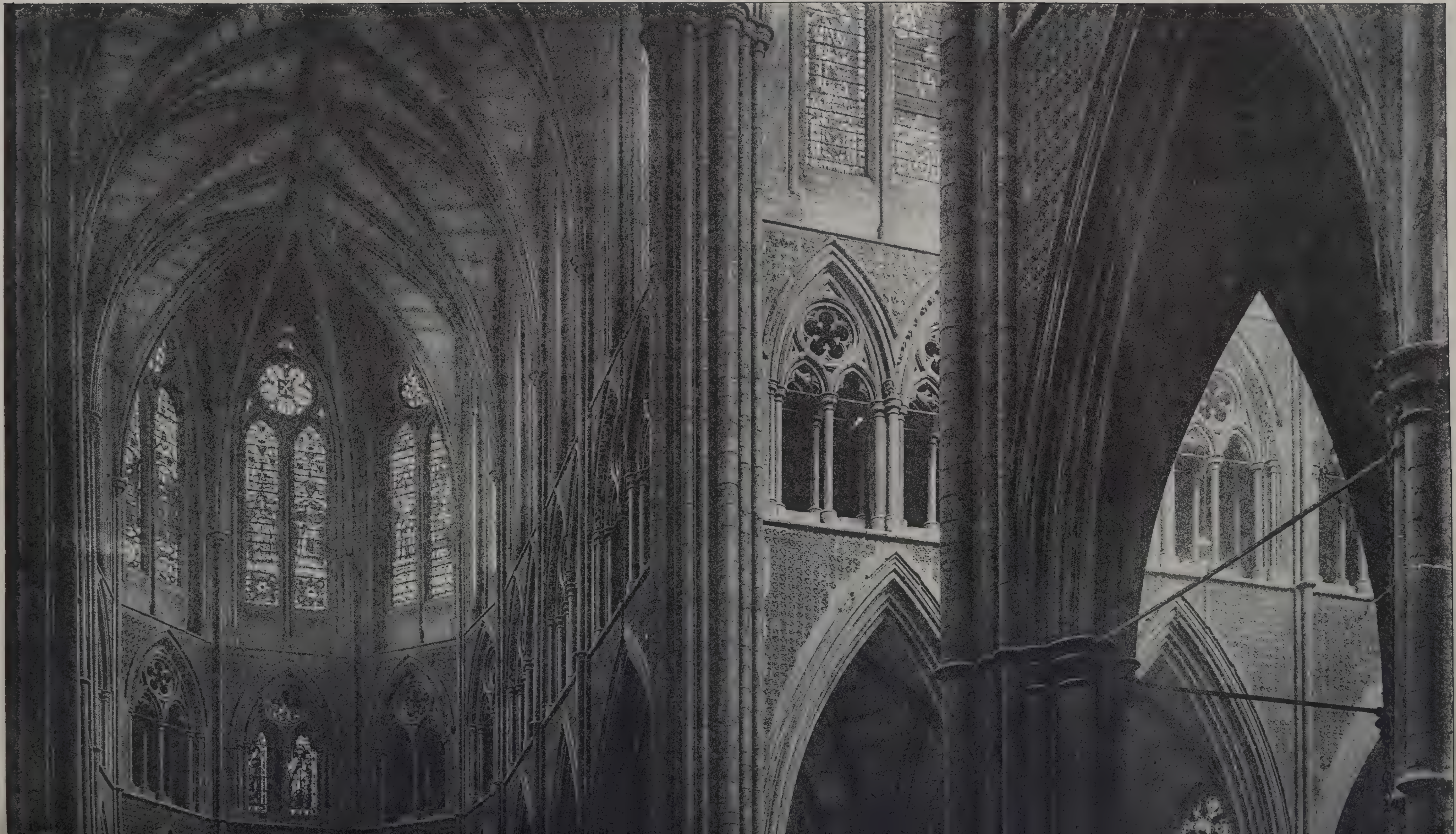
The Belfast Harbour Commissioners have agreed to erect a new graving dock and to grant all the ground demanded in order that Messrs. Harland & Wolfe, shipbuilders, may be able to extend their works.

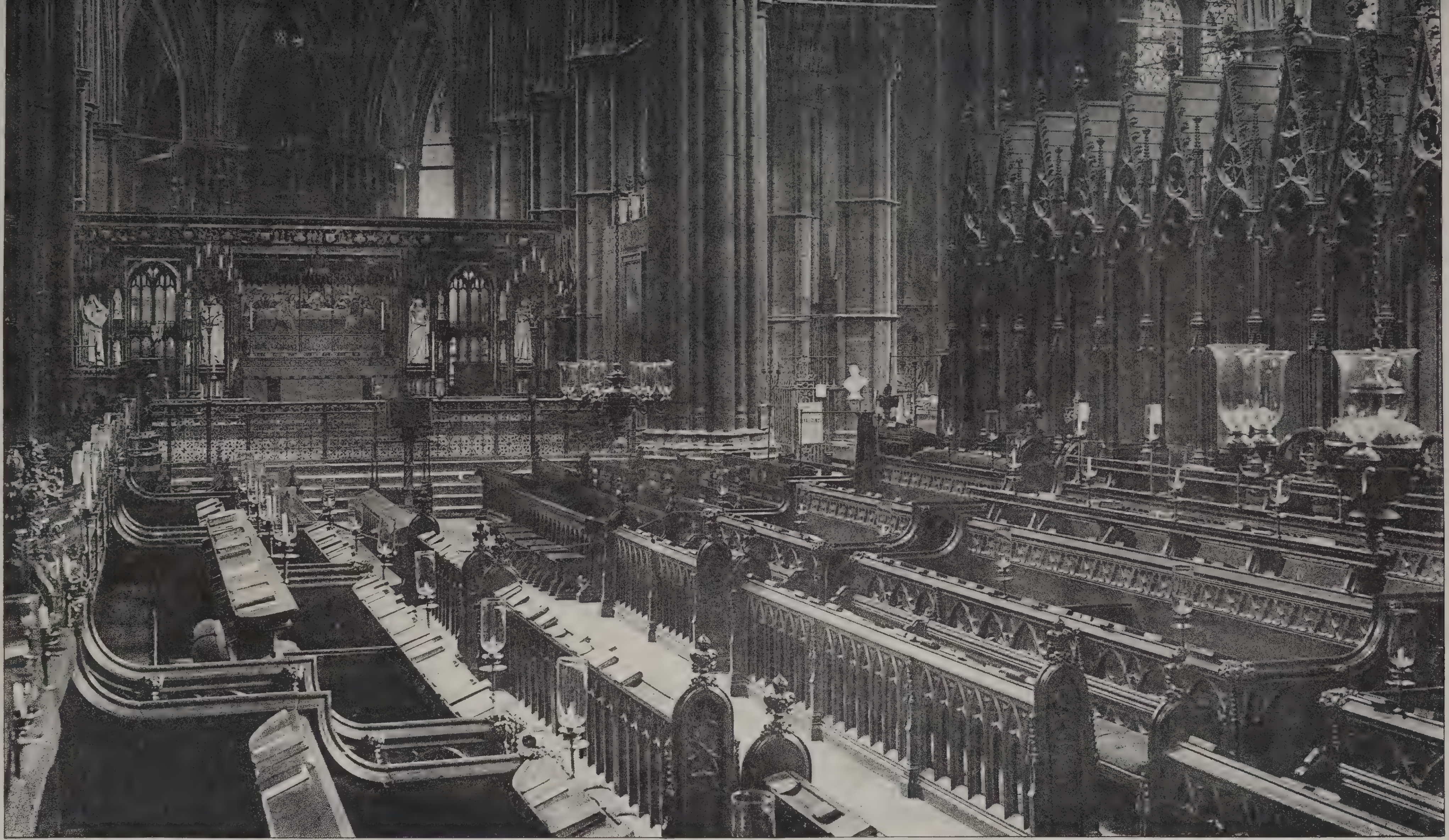
The American National Institute has appealed to the Municipal Council of Paris for land on which to build an academy corresponding with the French institution in Rome and Athens.

Mr. S. U. Roberts, who died in Dublin a few days ago, was a well-known civil engineer. He was entrusted with the control of the works for the improvement of Lough Corrib. On their completion he was appointed a commissioner of public works.

Mr. James Gandy has taken into partnership Mr. R. E. Bennison. The title of the firm will be "James Gandy & Bennison"

The Architect, Jan 19th 1900.





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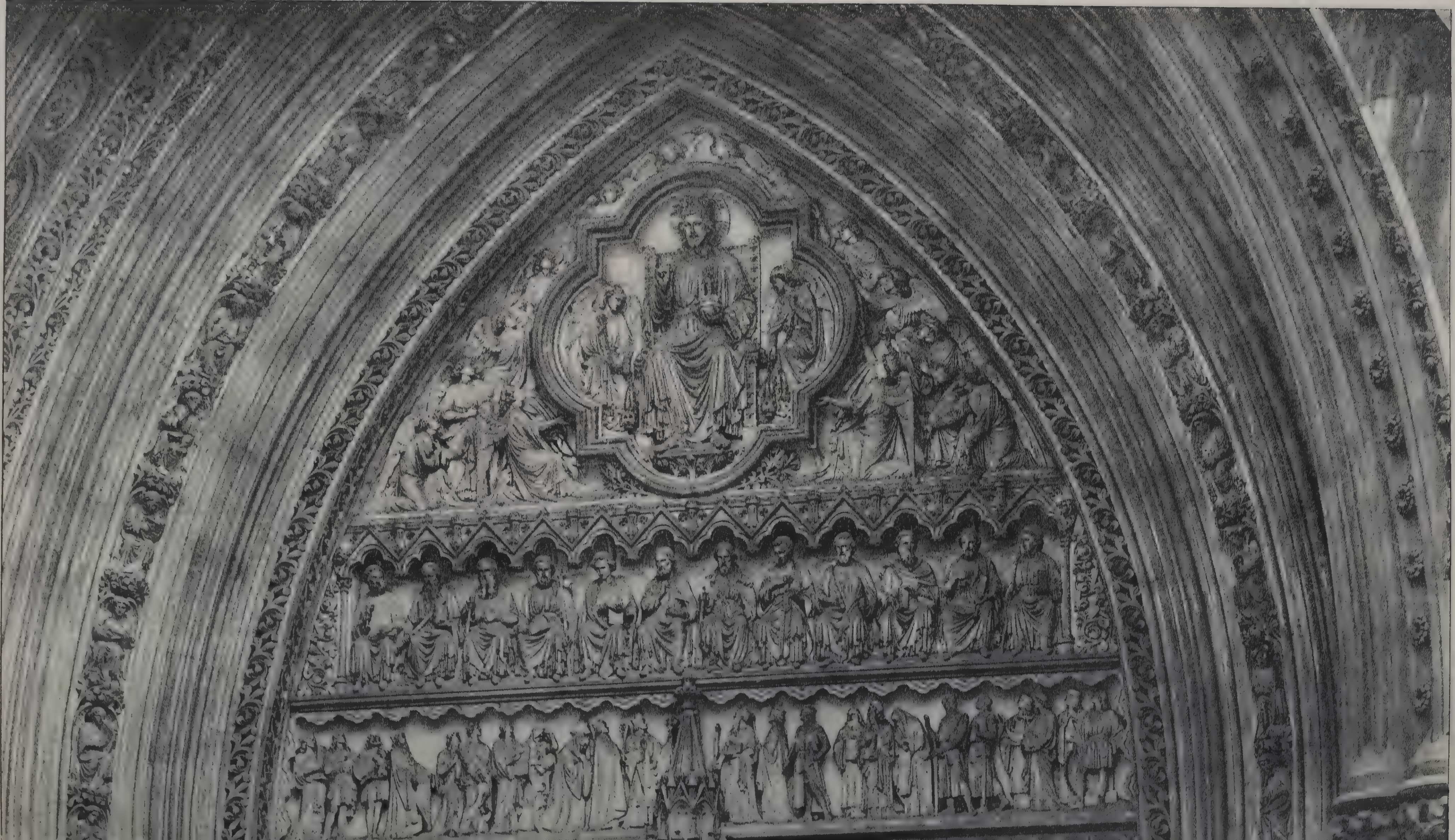
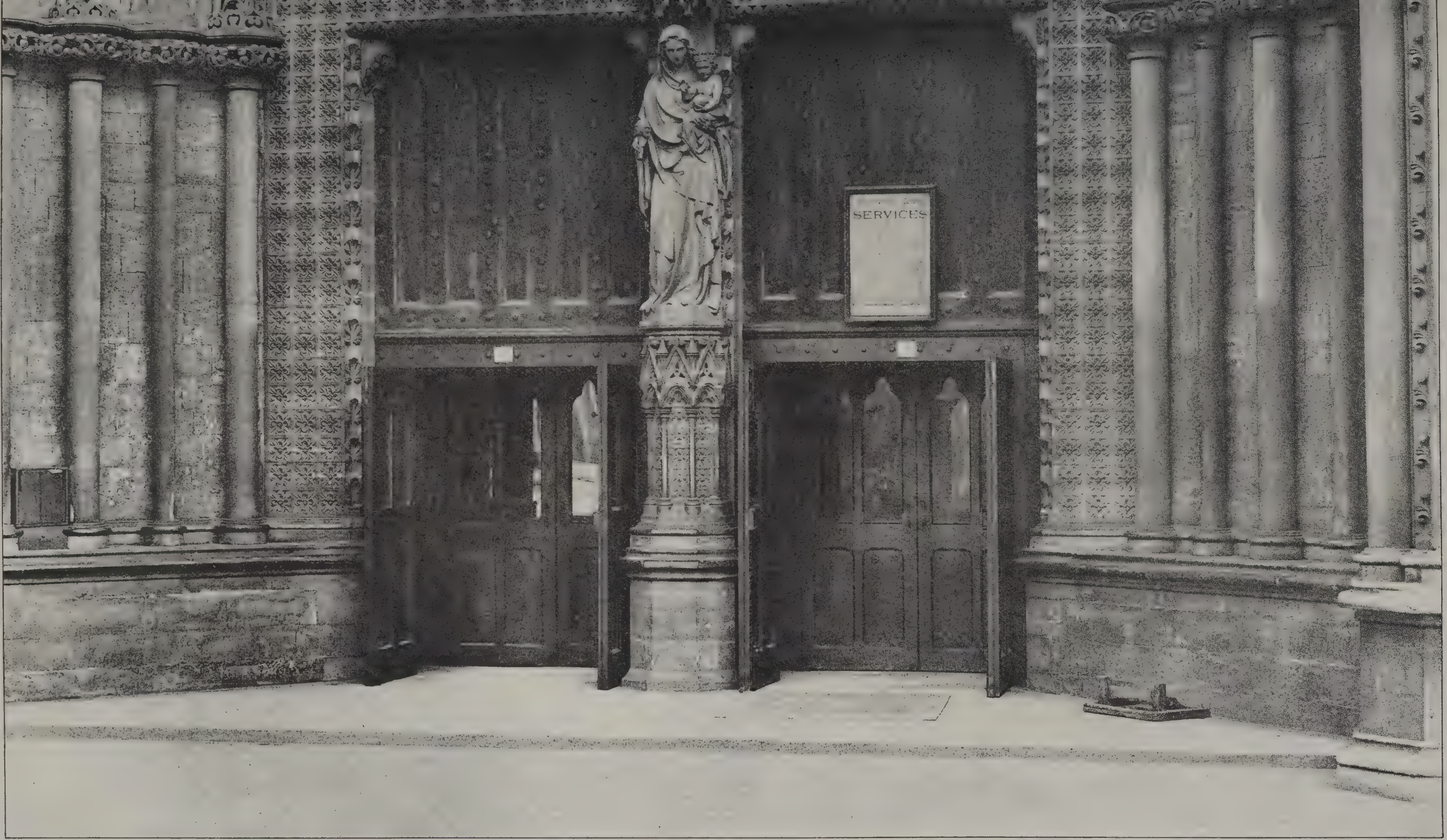
WESTMINSTER ABBEY, No. 6.

CHOIR, LOOKING EAST; SHOWING PART OF SOUTH TRANSEPT.





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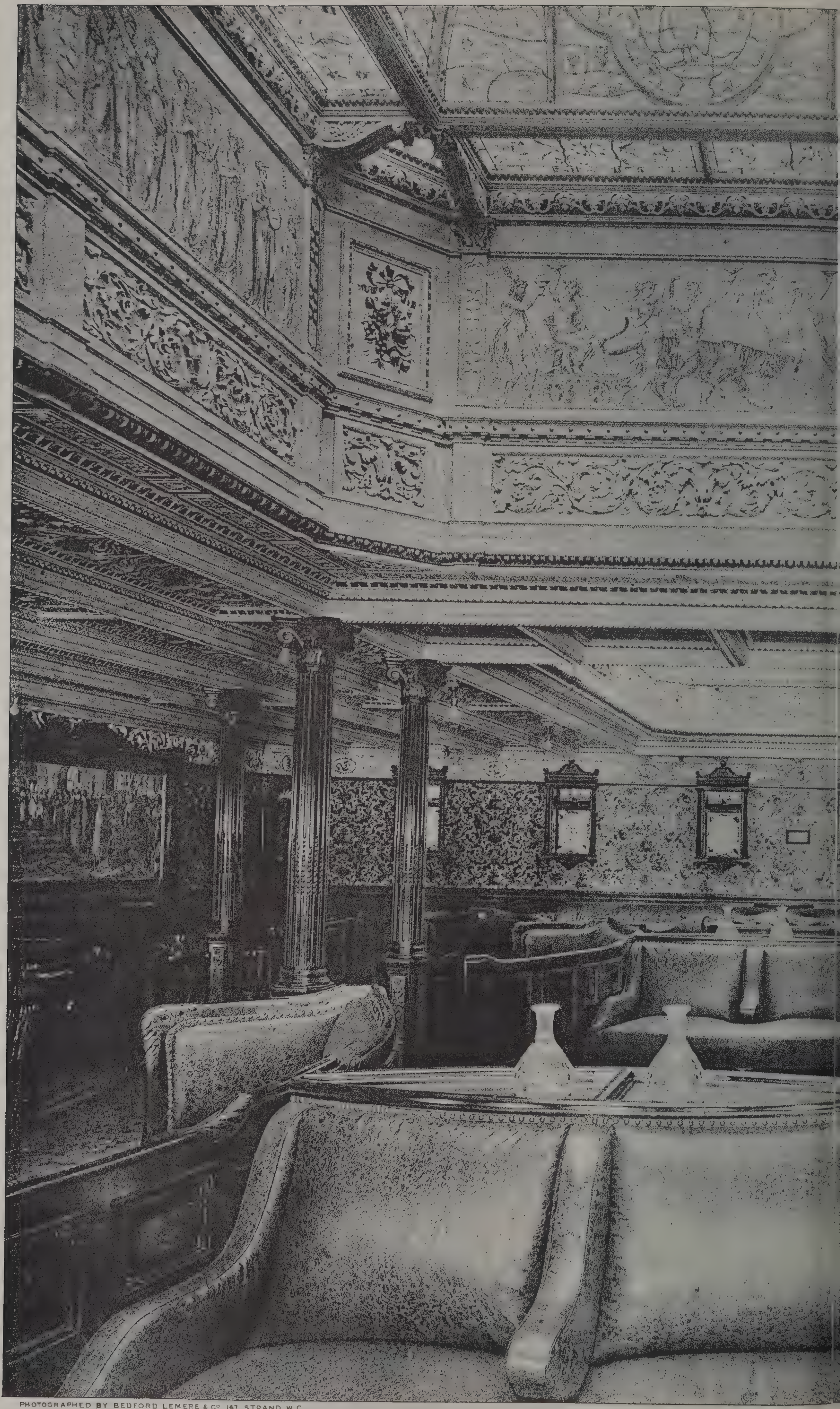
Westminster Abbey, No. 7.
North Door.



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FIRST-CLASS SMOKING-ROOM: R.

R. NORMAN SH

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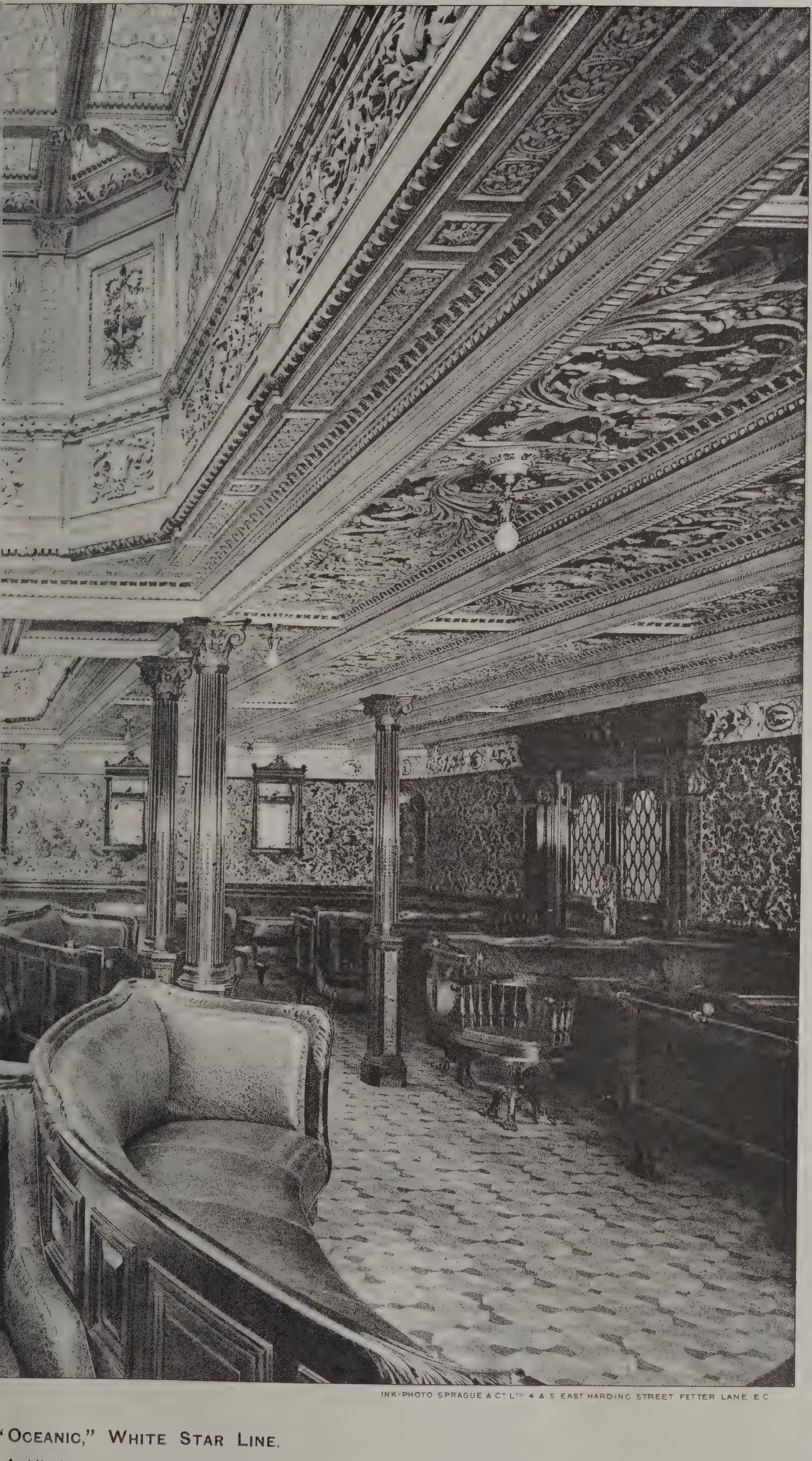

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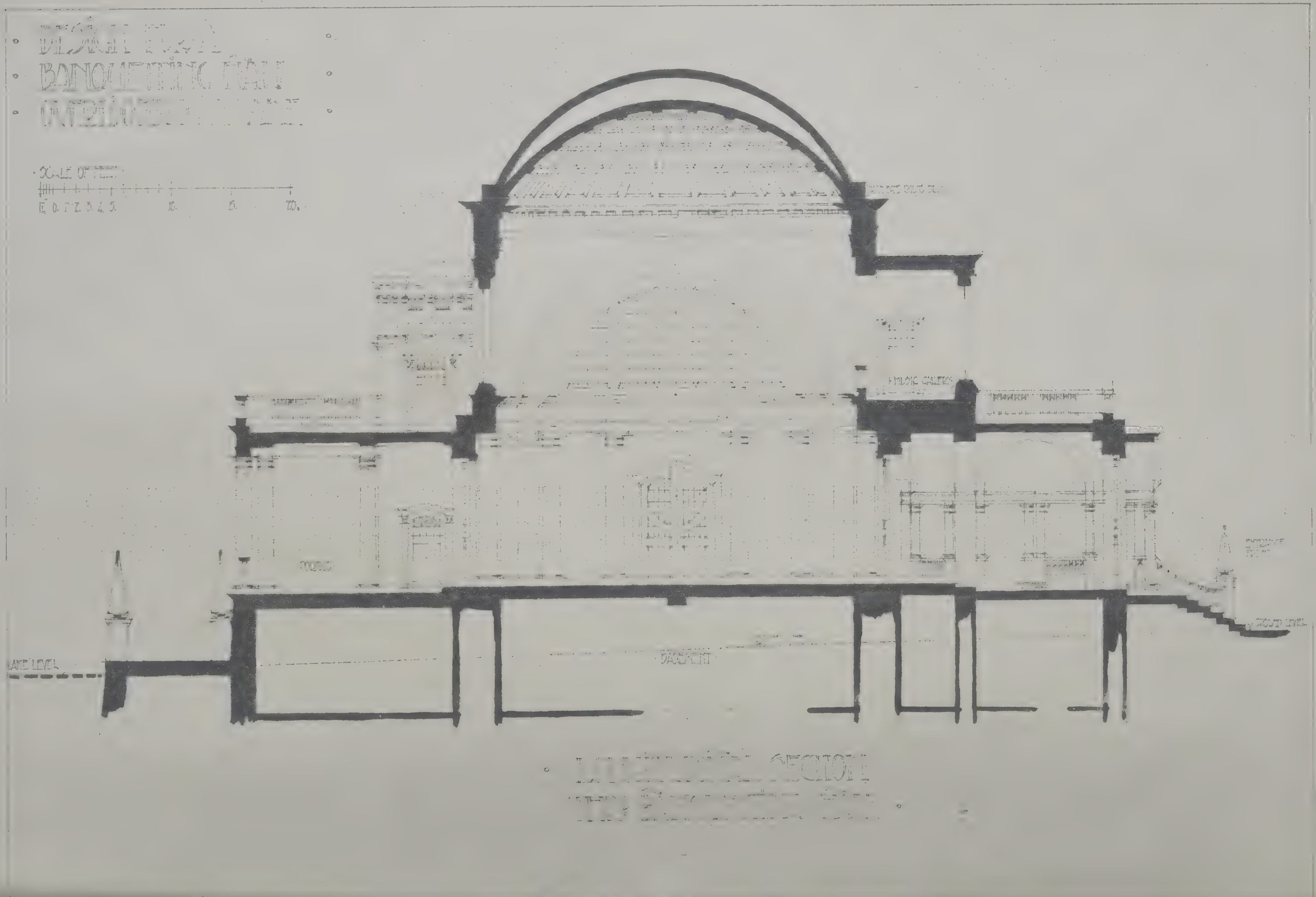
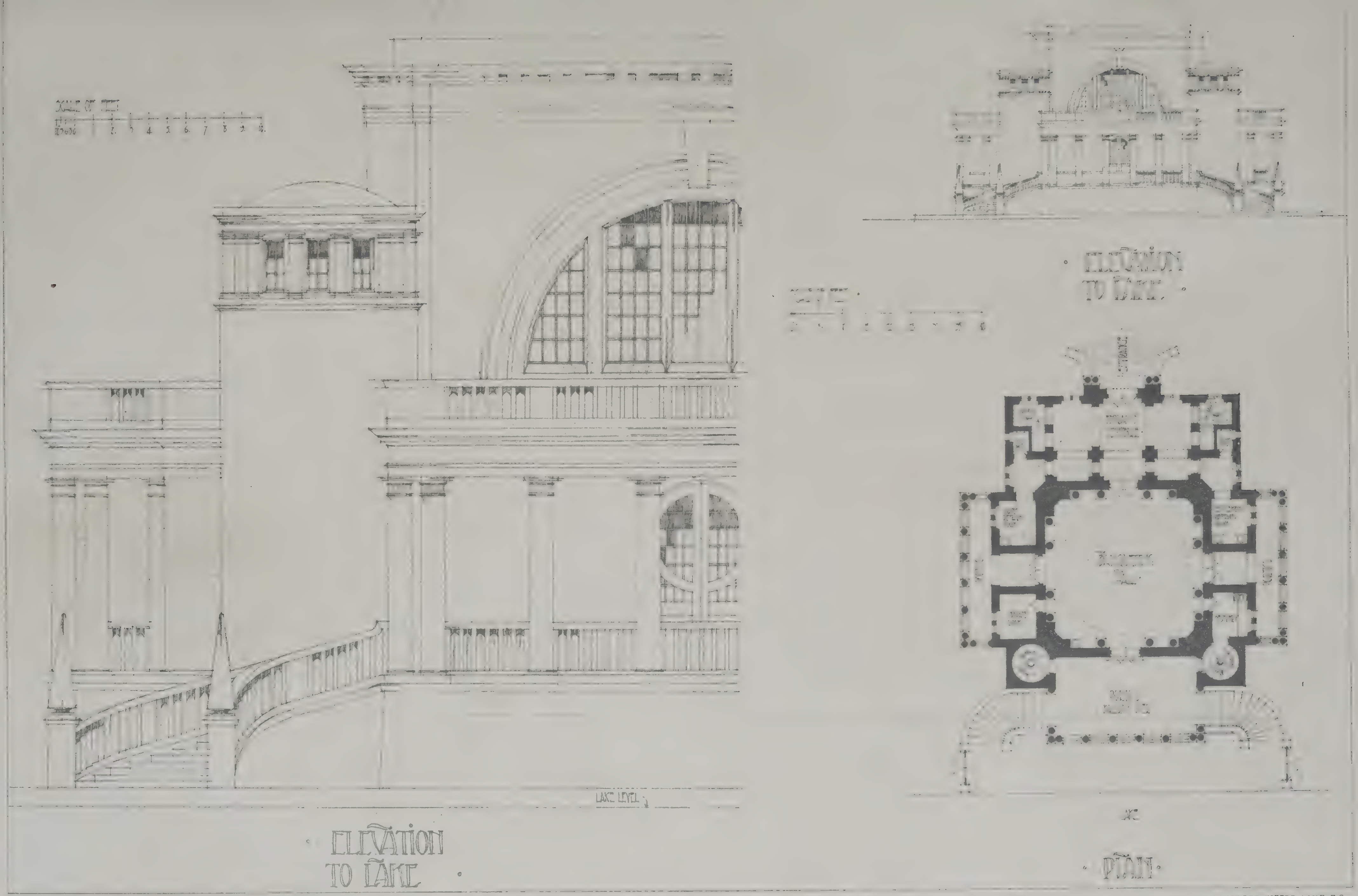
"OCEANIC," WHITE STAR LINE.

Architect.

The Architect, Jan 19th 1900.





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ROYAL ACADEMY COMPETITION, 1900. PREMIATED DESIGN, LOWER SCHOOL.

BY F. WINTON NEWMAN.

The Architect.

THE WEEK.

It was not wise on the part of the executors of the late Mr. Restell to continue the action which he had commenced against his architect, Mr. Nye, and which was tried before Mr. Justice Mathew on Tuesday. The case turned mainly on the question whether it is allowable for an architect to take out quantities for his own building and to accept payment for them from the builder. Mr. Restell wished to have a bungalow erected for himself in Sussex, and in agreeing to pay 5 per cent. for plans, specifications and supervision of works, he wrote to say that the charge was to be inclusive, covering everything. But when he found that the architect was paid 2½ per cent. on 1,790*l.*, the amount of the tender, in addition to 10*l.* 10*s.* for drawings, he declared that the receipt of the money was a breach of the terms of employment, and alternatively was a secret profit made by the defendant in the course of his employment. He also charged him with negligence in passing for extras some works which were included in the contract and certifying for sums improperly passed. Mr Justice Mathew has a great reputation for his knowledge of commercial law, and he tried the case on commercial principles. In such cases secrecy is abhorred by the courts, and Mr. Justice Mathew concluded that the architect had concealed from Mr. Restell his intention of taking out the quantities. It is, however, likely that Mr. Nye, in common with a great many architects, considered that everybody knew that quantity taking was a different class of work to the preparation of plans, and had to be paid for under different conditions. The judge could not say there was anything illegal in an architect taking out his own quantities; what he objected to was the supposed concealment and the possibility that Mr. Restell, if he had known of the arrangement, would have disapproved of it. From the importance attached to all his Lordship's remarks, we consider that it is advisable that a client should be made aware of all arrangements of the kind. If Mr. Restell had lived and declared he would not have sanctioned the arrangement, it is possible the decision would have been in his favour. On the question of negligence his Lordship was satisfied that the architect had not held the scales impartially, but it was a principle of law that when two men engaged a third to settle a dispute between them they were bound by what he decided. Judgment was therefore given for Mr. Nye, but without costs.

In spite of the power possessed by French workmen, the Paris Law Courts do not appear willing to assess damages for injuries to them on the munificent scale which is adopted in England. A case was lately heard in which a workman claimed damages from a contractor for injuries to his left hand, which was declared to be permanently useless. After a long inquiry the loss arising to him was estimated at the small sum of 316 francs. The compensation is extraordinarily low, and we suppose the judges must have considered that the whole of the responsibility for the accident should not be cast upon the employer.

There is a general belief among Government officials that they can play fast and loose with contracts. Private interests are supposed to succumb to public necessities, and in what the latter consist has to be often left to the interpretation of interested individuals. The decision of Mr. Justice Day on Tuesday will, we hope, bring home to public servants the conclusion that English law must prevail against the official spirit, and that a contractor with a Government department must be as honestly treated as if he were employed by an ordinary person. The case tried arose out of the acceptance by the Admiralty in 1895 of a tender of Stewards & Co., Limited, for the supply of 2,000,000 tons, or such quantity as might be required, of "cap and roach" stone, in accordance with a specification. Two years afterwards, when the contractors had supplied 254,985 tons, or about an eighth of the amount ordered, they were informed that the works would for the future be carried on by a firm of contractors instead of by the Admiralty, and the former could make their own arrangements about materials. The contractors claimed 27,386*l.* for loss of profit on the stone which was ordered but not taken. The Admiralty contended there was no obligation to take the whole of the stone from one contractor, and they had not agreed to continue the construction of the breakwater in order to use the stone belonging to Stewards & Co. Mr. Justice Day, who heard the case, said the Admiralty had agreed to take the stone which the contractors had promised to supply up to 2,000,000 tons. Judgment was accordingly given for Stewards & Co., but the question of damages was allowed to stand over. If a public company or a corporation had entered into a similar contract, the necessity of carrying it out or of making some arrangement to prevent loss would be unquestioned, and there can be no equitable reason why a Government department should not be responsible to a similar extent. Few contractors, however, venture to enforce the performance of a contract deed with a Government office, and credit is therefore due to Stewards & Co. for so bravely insisting on the recognition of a contractor's rights.

The report of the Commission appointed in 1897 to consider the subject of the water supply of the Metropolis has appeared during the week. As was to be expected, the members hesitate about recommending any heroic scheme such as that which the London County Council are promoting. They believe the Thames can yield all the water that is required until the year 1941. Then it will be known whether twelve or thirteen millions of people occupy the Metropolis, when the question of supply will assume more gravity. No less important is the conclusion that the London County Council should not be allowed to have the control of the water supply. It is recommended that a Water Board should be constituted, consisting of thirty members who are to be representatives of the London County Council, the Conservators of the Thames, the County Councils of Middlesex, Surrey, Essex, Hertford and Kent, the Lea Conservancy Board and the Common Council of West Ham. It is considered desirable that the existing means of supply belonging to the water companies should be purchased by the Water Board. The report must affect the water bills which are now before Parliament, for respect is sure to be given to conclusions which were arrived at after an inquiry which required no less than eighty-four days.

The appointment of Mr. W. Arundell, M.S.A., as consulting architect to the Government of Assam is announced. He has been a member of the Society of Architects from its commencement in 1884. He served on the Council from June, 1886, till November, 1887, when he resigned upon leaving for India. There he has been engaged in designing railway buildings and in railway engineering generally for the Delhi Umballa Kalka, the East Coast, the East Indian and the Assam Bengal Railways. In the course of his practice he has designed and superintended the erection of various buildings in Umballa, Rawul Pindi, Delhi and Calcutta. In Shillong, where all the buildings were totally destroyed by the earthquake of June 12, 1897, there will shortly be a new Government House, church, public offices and private houses erected from his designs. Mr. Arundell served his articles with the late Mr. J. N. Brown, of Norwich, and for some years was in the office of Mr. Basil Champneys.

An esteemed architect who was especially successful in church buildings ended a laborious life on Monday. Mr. William White died suddenly on that day in his seventy-fourth year. He was one of the most prominent representatives of Gothic, and he was able to erect numerous churches in that style. He also endeavoured to introduce various innovations in construction, and he was an early advocate of the use of concrete. Mr. White's name will long be remembered in connection with architectural jurisprudence, for he was the protagonist in the leading case Kimberley *v.* Dick, in which the relations between clients, architects and contractors was defined.

JOHN RUSKIN.

The long period which has elapsed since John Ruskin ceased to wound the susceptibilities of practising architects by his words has produced something which is akin to forgiveness for his attacks, and we can join in the general, if placid, regret for his loss, and pity his disappointment at the scanty results which such intense and continuous labour has produced. When Pugin savagely asked, "Why does not the fellow build something?" the few words pointed out the shortcomings of John Ruskin not only in his treatment of architecture, but in other forms of his activity. Various as were his endowments, constructive ability was not among them. He failed in his social experiments from not possessing it, and if he had attempted building he would not be more successful. We have no right, perhaps, to judge of him as a builder in any form. The world would have been more satisfied to have considered him simply as an agreeable writer. But by the assumption of constructive and organising power in spiritual as in worldly affairs, he made himself liable to judgments which were often unduly harsh and severe, because his limitations were not sufficiently understood.

Nature had enriched him with intellectual and material gifts such as few have received. He was the only son of a wine merchant, who, after honourably satisfying the claims against his family, was able to become wealthy. The elder Ruskin was a quiet man, of a sensitive disposition, with a mind that found enjoyment in the beauties which the earth offers and in works of art. If nature were allowed to have her way, his child would have grown into a delightful being, far exceeding in charm the man whose long life came to an end on Saturday. Unfortunately, Mrs. Ruskin was enthralled by a doctrinal fear of nature. She believed her child was born with evil propensities, and it was her duty to sternly eradicate them. The easy-going father endeavoured to convince himself that she was right, and the training of the boy was left entirely to her. When one thinks that young Ruskin was possessed of a love of form and colour which was almost superhuman, it gives one pain that in his childhood he was compelled to employ his sense of vision under cruel restrictions such as he has described, and which he tried to believe were inspired by affection :—

> For toys I had a bunch of keys to play with, as long as I was capable of pleasure in what glittered and jingled ; as I grew older I had a cart and a ball ; and when I was five or six years old, two boxes of well-cut wooden bricks. With these modest but, I still think, entirely sufficient possessions, and being always summarily whipped if I cried, did not do as I was bid, or tumbled on the stairs, I soon attained serene and secure methods of life and motion, and could pass my days contentedly in tracing the squares and comparing the colours of my carpet, examining the knots in the wood of the floor, or counting the bricks in the opposite houses ; with rapturous intervals of excitement during the filling of the water-cart, through its leathern pipe, from the dripping iron post at the pavement edge ; or the still more admirable proceedings of the turncock, when he turned and turned till a fountain sprang up in the middle of the street. But the carpet, and what patterns I could find in bed-covers, dresses, or wall-papers to be examined, were my chief resources.

Destiny sometimes accomplishes its end by the aid of obstacles, and Ruskin's love of colour may have been developed by having day after day no other objects to study except the carpet, wall-paper and bed-covers which a middle-class house contained in the first quarter of the nineteenth century, with for extraordinary exhilaration such scenes as the filling under sunshine of a water-cart or the rise of an unexpected fountain through the operations of a turncock. But with many children that kind of inhuman discipline would inevitably end in idiocy. The elder Ruskin must have felt in secret the risks and torture of the privations, and he carried his son with him when he went on business journeys through England and on the Continent. It was in a postchaise the most important part of the child's education was gone through, but it fostered a spirit of self-sufficiency which was not altogether beneficial. That John Ruskin had happily a tendency to the objective which was not to be overcome, and that his eyes dwelt with pleasure on all the objects which came before them, is suggested by the verses which he addressed to his father—there is no record of any poem to the mother—when John was about nine years old. He introduces in it—

Waterfalls that are heard from far,
And come in sight when very near,
And the waterwheel that turns slowly round,
Grinding the corn that requires to be ground—
And mountains at a distance seen,
And rivers winding through the plain,
And quarries with their craggy stones,
And the wind among them moans.

The lines may not be remarkable, although equal to the early efforts of greater poets; but in a biographical sense they are of much importance as revealing his delight in the elements of a landscape at an early age, and in the analytical power which enabled him to realise on what the effect of a landscape depended. From the first, it is evident John Ruskin found a painter's, a poet's, and, we might add, a mystic's delight in contemplating nature. It is not unlikely, therefore, that when he took up the championship of Turner it was from the belief that the painter was the only landscapist who was competent to do justice to the beloved scenes the youth enjoyed in England, France and Switzerland, as well as the combinations of them which imagination created.

Another influence was early at work with him. His mother, whose strong will he could not resist, wished him to be an Evangelical clergyman, and she was seconded by his aunt. Under Mrs. Ruskin he received a preliminary training for the ecclesiastical state. Although he never sought after orders, and became rather indefinite in his theological views, throughout his life he appeared as the Evangelist, and the majority of his writings are suggestive of the pulpit. There never was an equally great writer with so little of humour, and we ascribe the absence of it to the education which made clerical decorum prevail in all things. When he was twenty he won the Newdigate Prize, and in his poem he could not restrain himself from a prophetic vision in the Biblical spirit "about the steps of them that publish peace" in India. He cries out :—

Already are they heard—how fair, how fleet !
Along the mountains flash their bounding feet !
Disease and death before their presence fly ;
Truth calls, and gladdened India hears the cry,
Deserts the darkened path her fathers trod,
And seeks redemption from the Incarnate God.

This constant reference to the unseen and the reverence for Christian revelation is what differentiates Ruskin from all his predecessors who treated of æsthetics. He maintained that the arts "never had prospered, nor could prosper, but when they were devoted to the proclamation of divine truth or law." There was a connection, he said, between all that is best in the arts and crafts of man with the simplicity of his faith. In another remarkable passage on the study of architecture he told his auditors "that religion gave granite shrine to the Egyptian, golden temple to the Jew, sculptured corridor to the Greek, pillared aisle and frescoed wall to the Christian." Although at one time he declared that "the religious passion is nearly always vividest when the artist is weakest, and the technical skill reaches its deliberate splendour only when the ecstasy which gave it birth has passed away for ever," yet he could believe that the influence of St. Barbara, the Egyptian, was so enduring that "whether in the coronets of countless battlements worn on the brows of the noblest cities, or in the Lombard bell-tower on the mountains and the English spire on Sarum plain, the geometric majesty of the Egyptian maid became glorious in harmony of defence, and sacred with precision of symbol." This combination of art and religion occasionally produced unexpected effects. Many passages in his books could be selected to prove his admiration of the ways of Roman Catholics, but he said he could not be a member of their Church because some of the monks, or rather the lay brethren who acted as servants, had committed the unpardonable crime of lighting candles too near his favourite pictures. The Carthusians who had retired to an Alpine monastery in order to afford shelter to travellers and to rescue those who had fallen by the wayside, were scorned by him because they did not open windows in the wall of the monastery from whence the most extensive views were to be obtained. He believed there could be no truth in doctrines which did not enjoin the appreciation of scenery and reverence for the pictures he admired.

The importance attached to landscape in Ruskin's works, if compared with what he says about representations of the figure, will demonstrate his attachment to a class of art which was undervalued by advocates of the grand style. There is a very general notion from his upholding of pre-Raphaelitism that in landscape-painting he wished to have details represented to an extent that many would consider excessive. That is an error. Nobody, he said, could from real mountains, no matter how faithfully they were copied, obtain the forms of noble landscape. Photographic representations he considered to be invaluable as aids to the study of geography or geology, but for art purposes their value was less than zero. Turner's view of Chamounix, which was to him a perfect representation, was, he said, unreal, for no such mountains were to be found there, but the artist gave us "the ghosts of eternal mountains such as have been and shall be for evermore." We may even suppose that Ruskin was doubtful whether the mass of men were sufficiently gifted or, as he would say, sufficiently virtuous to be able to see the sublimities of nature as revealed in landscape. For he imagined sensitive people saying to a great imaginative painter, "Come between this nature and me—this nature which is too great and too wonderful for me, temper it for me, interpret it to me, let me see with your eyes and hear with your ears, and have help and strength from your great spirit." He maintains that the noblest pictures serve that purpose, and save the spectator from being over dazzled by the original scenes.

The admiration for landscape was praiseworthy, and John Ruskin, in his "Modern Painters," was continuing the work commenced by Wordsworth, a passage from whose poems was selected as a motto for the title-pages of the volumes. But the poet was not without weaknesses which used to amuse visitors to Mount Rydal, and especially a manner of acting as if he had attained the loftiness of one of the mountains he described. John Ruskin's work was also affected by his devotion to nature on a grand scale. When he speaks of mountains as "the great cathedrals of the earth, with their gates of rock, pavements of cloud, choirs of stream and stone, altars of snow and vaults of purple traversed by the continual stars," a cathedral built by Englishmen, and especially their modern houses, must have appeared to him as rather unworthy objects. It may appear strange to some admirers to suggest that Ruskin ever said a word against a Mediæval cathedral. But in the "Crown of Wild Olive" he states that the builders of the cathedrals corrupted Gothic architecture. Gothic, he said, was formed in the baron's castle and in the burgher's streets by the thoughts, hands and powers of labouring citizens and warrior kings. The monk's Gothic was an instrument for the aid of his superstition. The sight of the English genteel house excited his contempt because it expressed "the spirit of well-principled housemaids everywhere, exerting itself for perpetual propriety and renovation so that nothing is old." In his contrast between an English cathedral and St. Mark's, Venice, which is one of the cleverest pieces of writing he penned, we see the same spirit of gentility is introduced to make the English building appear as a mass of small formalisms which has little or no effect upon those who pass beneath it. Everything is bleak and cold, and the hoarse-voiced and sable-winged crows that drift in the bleak air around it are its most fitting exponents. The English cathedral is said to be something which stands apart from daily life. St. Mark's, on the contrary, is shown to have concentrated in its walls samples of all that is beautiful in the world. The marbles are even endowed with passion, for we are told that they "half refuse and half yield to the sunshine, Cleopatra like, their bluest veins to kiss." All that men care to see is found there, and doves instead of crows welcome the visitor. About the Ducal Palace Ruskin tells us that he used "to feel as much awe in gazing on the building as in gazing on the hills, and could believe that God had done a greater work in breathing into the narrowness of dust the mighty spirits by whom its haughty walls had been raised, and its burning legends written, than in lifting the rocks of granite higher than the clouds of heaven, and veiling them with their various mantles of purple flower and shadowy pine." The buildings of Venice were proved to be intimately related with nature, and to possess not only many of the qualities of the mountains, but of the sea and of the clouds. It was a revelation, and no wonder the descriptions excited ardent minds into the belief that a new architectural era had commenced. Gothic had been studied and practised, but the chapter in the "Stones of Venice" on the nature of Gothic was like a suggestion for a new style which all could follow. It was easy for a pupil to imagine that he possessed the necessary changefulness, savageness, naturalism, grotesqueness, rigidity and redundancy demanded by the ideal Gothic. William Morris said the chapter was one of the very few inevitable utterances of the century, that it opened out a new road on which the world would travel, and that for the first time man could enter on work which he would be able to enjoy. It is no wonder that in the architectural essays of the time there was much said about precious stones, star-like openings, glittering pinnacles, marble foam, crystal vases, alabaster walls, so that architecture seemed to be about to abandon all English materials. Some attempts were made to introduce the forms and colours of Venice among us. But in our dismal climate the materials soon suggested it was better to have unpretending Portland cement than such dingy results as were produced.

John Ruskin had grounds for being buoyed up with the expectation that he had accomplished a revolution. The shy student who was not to be tempted into "society," and who shrank from crowds, lectured on architecture throughout the country with as much energy as if the salvation of the world depended on his efforts. He was doomed, however, to learn the bitter lesson that men may applaud because they are amused for the time, but that clapping of hands is not equivalent to a legal agreement to perform something. When he saw how fruitless were his efforts, Mr. Ruskin yielded to a human weakness, and supposed, like the stag in the forest, that his peculiar gifts were the cause of his failure. The eloquence which had charmed crowds became a punishment to him. "I have had," he exclaimed, "what in many respects I boldly call the misfortune to set my words prettily together; not without a foolish vanity in the poor knack I had of doing so, until I was heavily punished for this pride by finding that many people thought of the words only, and cared nothing for their meaning." His confession suggests an awakening from a glorious and honourable illusion; but there were other scenes to follow which were no less painful to go through. John Ruskin said he spent the ten strongest years of his life in endeavouring to reveal the greatness of Turner. The painter saw the uselessness of the attempt, and discouraged the zealot. After Turner's death Ruskin was allowed to make a selection for exhibition from the drawings which had been bequeathed to the nation. Three hundred were hung, but the public were indifferent to them. If Mr. Ruskin had given a little of the attention he bestowed on landscapes to the study of human nature, he must have known that something more is needed to gather a crowd than the announcement of a number of sketches by a painter who was not popular. Henry Cole could have told him that the exhibition of Turner's studies was only an experiment which might draw, but that a collection of savage finery from a cannibal island would be certain to attract far more visitors. To Mr. Ruskin, however, who knew nothing of the risks of showmanship, the incident became what he called "a frightful discovery." For it was evident that the most splendid genius of the arts might be permitted by Providence to labour and perish uselessly. His words are only an example of the egotism of virtue. A plain man would say, if Turner were allowed to perish, why should the pieces of paper on which he drew have a right to immortality? Or the hope would be expressed that as men advanced more pleasure would be found in the studies, and if they were worth anything they might await the issue in confidence.

Mr. Ruskin was fated to derive experience of failure in other ways. He courageously took up the championship of pre-Raphaelitism when that manner of painting had become a by-word. He was taken to be the inspirer of everything which the critics considered absurd, and as a consequence he was for a time the best abused man in Great Britain. He succeeded at length in compelling adversaries into admiring the artists; then the Brotherhood was dissolved, the majority of the members adopted different styles, and left the errors and the responsibility for their wasted efforts to their champion.

No one can recount these defeats without having sympathy with the man who had striven so earnestly for truth. But a greater trial was to follow. The world had declared Mr. RUSKIN to be a delightful writer about art. Whether his principles were right or wrong did not much matter. It was sufficient that his books were too costly to be vulgarised, and without cutting the leaves it was possible to read a great many interesting passages. He was not satisfied with the rôle which was assigned to him. He saw beautiful spots on the surface of England spoiled by collections of mean buildings which he had condemned without any pity. Further reflection had compelled him to think of the lot of the men and women who lived in them. Accordingly with, if possible, an excess of ardour, he took up the investigation of sociology. But the world was not disposed to overlook his desertion of the part which was considered to be best suited to his power. An outcry was raised against his "Unto this Last" which compelled its withdrawal from a magazine after four chapters had appeared. The conductors of a rival magazine considered it would be a wise act to display courage in publishing the remaining chapters. The work had, however, again to be withdrawn, but the failure only spurred JOHN RUSKIN to stronger efforts. To his credit it must be said that he was one of the few preachers who practised to the letter all the counsel which he gave. He devoted not only his life for a time to social problems, but he expended the greater part of his fortune in endeavours to demonstrate the practicability of their solution. He received occasional aid from enthusiasts, but the multitude thought less of his efforts than if he had been engaged in experiments in prose or verse, or in the production of engravings. Is it any wonder that amidst so many failures he broke down in body and mind?

There is no great writer whose influence on his contemporaries it is more difficult to gauge. Only in America the effect of his books can be properly judged, for there pirated editions were available for genuine students who were not wealthy, whilst in this country no more than a fraction of the copies published can be supposed to have been read with attention. There is much which is factitious about the admiration which has been expressed for the writer, and if acquaintance with RUSKIN'S doctrines were requisite for admission into a Ruskin Society we fear the roll of the members would not give much trouble to the officers. We must admire the courage which for so long a period upheld causes which were not popular, and without much enjoyment of success. Painters do not imitate TURNER. Venetian architecture of a non-Renaissance type is rarely adopted as a model for English buildings. The St. George's Society, if it should exist, is not in a flourishing state, and it would be difficult to discover a school where the RUSKIN system of education is adopted. His own personality must have helped, to some slight extent, in the promotion of his doctrines; but now that is withdrawn we doubt if a more powerful factor will rise, or that his voluminous books will be employed as guide-books to any of the numerous subjects he treated. He is, however, sure of remembrance as a writer of luminous prose, who could make abstruse subjects fascinating to readers however strong might be their prejudices against conviction. But as long as the world lasts his memory will be held in reverence as that of a man who never spared himself in promoting the interests of humanity, who had visions of a happier state but was destined to fall before they were realised.

LONDON IN 1700.

AS thirty-four years had passed since the Great Fire, the Metropolis at the beginning of the eighteenth century may be said to have recovered from the losses caused by the catastrophe. The City was laid out to a large extent on the old lines, for private interests would have to be sacrificed if either the plan of EVELYN or WREN had been carried out. But there was anxiety to recommence business as quickly as possible, and to attain that end the improved thoroughfares had to be sacrificed. As we look over the records for 1700 and compare them with a few of those of an earlier time which survived the Great Fire, it is difficult to realise that so much that was essential to city life had vanished in flames. The ways of Londoners in the new century appear to be only the continuation of what had long existed, and there seemed to be no break between the two eras.

The Thames remained as a link to suggest the continuity of London life. London Bridge was still the only fixed means of communication across the Thames in 1700, as it had been during several preceding centuries. With the exception of the part which was called the "drawbridge," the roadway was lined with timber buildings, and it was generally believed that one of them, called Nonsuch House, had been framed in Holland and set up without the use of nails. It was in those days quite common to expend 3,000*l.* a year in upholding the bridge. There were two water-works for pumping water to a height. Westminster Bridge was not commenced till 1738, and the first stone of Blackfriars Bridge was laid in 1760. It is true that from some of the documents of the time it might be supposed there were several bridges over the Thames. Thus WALLIS, the mathematician, writing in 1699, mentions a voyage from Stangate to Westminster Bridge which occupied half an hour. But what was called "Westminster Bridge" was no more than a landing-place at New Palace Yard. In one of the despatches of the French ambassador there is mention of a project for a bridge in 1664, but CHARLES II. declared he would never approve of it, and thereby won much favour among the watermen, who formed an important corporation.

The most important building in progress in London was St. Paul's Cathedral. In 1700 the outlay was 22,253*l.* 17*s.* 1¾*d.*, and in the year preceding 15,983*l.* 19*s.* 9¼*d.*, but in 1706 the amount rose to 39,825*l.* 11*s.* 11*d.* Up to the end of 1706 the expenditure, exclusive of interest, was 536,295*l.* 12*s* 1¼*d.* It may not be known that the expenses in removing Old St. Paul's and preparing the ground for the foundation of the new building amounted to 20,958*l.* Although so far advanced there was a possibility that WREN'S building would not be seen in the eighteenth century. In 1698-99 a fire broke out in a room at the end of the choir which was used by the organ-builders. The communication between the room and the organ gallery was promptly impeded by the masons, and as all means that could be obtained were employed, the fire was fortunately overcome. The money required for the works was obtained up to September 1700 by charges on coal, varying from 3*s.* to 1*s.* 6*d.* per chaldron. By an Act passed in 1700 the charge was reduced to 1*s.* per chaldron or ton. In 1708 the imposition was increased to 2*s.* In addition sums amounting to 51,715*l.* were sent in as donations, Sir CHRISTOPHER WREN subscribing 60*l.*, the Dean and Chapter 3,526*l.*, and Archbishop JUXON 2,000*l.* One of the first monuments erected in the vault of the new cathedral was sacred to the memory of JANE WREN, the only daughter of Sir CHRISTOPHER, who died in 1702, in her twenty-sixth year. Another monument was a memorial of the architect's sister SUSANNA. From the inscription she would appear to have had a genius for medicine, as it says:—"Her Charity was no small blessing to the Neighbourhood wherever she resided, having in compassion to the poor applied herself to the knowledge of Medicinal Remedies, wherein GOD gave so great a Blessing that thousands were happily Healed by her, and no one ever miscarried. K. CHARLES II., Q. CATHERINE and very many of the Court had also Experience of her successful hand." The decoration of the dome, for which THORNHILL was paid forty shillings per square yard, had not been undertaken in 1700. The majority of the parish churches of London, which the Great Fire destroyed, were restored or rebuilt by the end of the seventeenth century, but a few were incomplete.

WREN, although a very old man, had then a monopoly of the superintendence of church and other public buildings. VANBRUGH did not begin his practice as an architect till 1702. NICHOLAS HAWKSMOOR was in the Government service, and was to succeed WREN in the care of the new churches and of Westminster Abbey. LAGUERRE was admired as a decorator by many, and was the first selected to paint St. Paul's, although he did not receive a commission. Robert Brown, an assistant of Thornhill, was employed in several of the City churches.

In the beginning of the eighteenth century the houses of the nobility were rather scattered. Somerset House, which had been occupied by Catherine of Braganza as if it were a dower-house, was in 1700 tenanted by several nobles. The grounds towards the river, which were adorned with fountains, &c., formed one of the most pleasing sights to those who journeyed by boat or barge along the Thames. The Bedford House which then stood on the north side of the Strand was, like Beaufort House, let out in apartments, the house occupied by the Duke being in Bloomsbury Square. Robert Harley, the statesman, lived near the river; Samuel Pepys was another of the residents. The Duke of Northumberland's house was in St. James's Square; the palace near Charing Cross called Northumberland House was occupied by the Duke of Somerset. St. James's Square was selected for residence by several noblemen. The Duke of Norfolk ordered the bricks for his house to be brought from Sussex. Lord Ashburnham's house was in Dean's Yard, Westminster. Lord Berkeley lived in King Square, Soho Fields; Berkeley House, in Portugal Street, near Piccadilly, was in the occupation of the Duke of Devonshire; Lord Cardigan had a fine house in Lincoln's Inn Fields. In Queen Square, Westminster, were the town houses of Lord Derby and Lord Dartmouth. Lord Dysart lived in Queen Street, Westminster; Lord Craven used the immense house in Drury Lane as a residence; Chief Justice Holt lived in Bedford Row; the Bishop of London's town house was in Aldersgate Street, the Bishop of Ely's in Holborn, and the Archbishop of York's in Petit France, Westminster. Lord Mohun, whose name had an ill repute in those days, resided in Gerard Street, Soho. The house which had been erected by Lord Powis in Lincoln's Inn Fields was purchased and occupied by the Duke of Newcastle; the Duke of Schomberg possessed a stately house in Pall Mall; the Earl of Thanet lived in Thanet House, Aldersgate Street.

Whitehall Palace was in the thirteenth century made over to the Dominicans. It was purchased from them soon afterwards by the Archbishop of York as a town house for his successors, and was known as York Palace. In that way it came into the possession of Wolsey, who assigned it to Henry VIII. In 1697 the Palace, with the exception of Inigo Jones's banqueting hall, was destroyed by fire. As a consequence, there was really no palace in London at the beginning of the eighteenth century for Queen Anne. Her Majesty was able to use Kensington House, as it was then called, Campden House, Winchester House, Hampton Court and Windsor Castle. But none of the town houses was adapted for official receptions.

Early in the century Westminster Hall was utilised for a purpose for which it was excellently adapted. In 1704 Marlborough had gained some of his great victories, and nearly two hundred flags had been captured with other trophies of victory. The hall was used to exhibit them, and never appeared to better advantage. They seemed to be a decoration well suited to the style of the structure. In 1706 several of the colours were presented to the City to be hung in the Guildhall; in fact, more than room could be found for. They were trophies from the battle of Ramillies, which was fought on Whit-Sunday in 1706. Guildhall was much damaged in the Great Fire, and it was restored in 1669. The colossal figures of Gog and Magog were introduced in 1706. It suggests the gratitude of the Corporation, that they had painted on the walls, when decorating the Guildhall, full-sized portraits of eighteen of the Queen's judges, who, acting under a special Act of Parliament, determined all differences that arose between landlords and tenants in rebuilding the City without incurring any expense in law costs. If a similar course could be adopted in our time in all cases of public works it would be an advantage to the community.

It seems almost incredible how few means were to be found in London for aiding in the cultivation of the intellect at the beginning of the eighteenth century. There was no public gallery of pictures, and private collections were not to be seen so easily as they are at present. Sir Hans Sloane, whose collection was the nucleus of the British Museum, was able to preserve it until 1753, and an Act of Parliament was required to allow the payment of 20,000*l.* for the property. Sion College contained a library for the use of the City clergy, but the greater number of the books were destroyed in the Great Fire. Charles II., however, presented all the books which had been seized as belonging to the Jesuits, but at the beginning of the century the shelves were not all filled. The Cotton Library, which was acquired at the same time as the Sloane collection, was kept in Cotton House, near Westminster Hall, in a chamber which was supposed to have been the oratory of Edward the Confessor. The value of the manuscripts increases as time runs on, for the founder, Sir Thomas Cotton, was occupied in gathering them for forty years during the reigns of Elizabeth and James I. The keeper, however, was obliged to find security in no larger sum than 500*l.*

The only museum which could in any way be considered as public was that of the Royal Society, of which body Sir Christopher Wren was one of the most distinguished members. Most of the objects representative of natural history possessed by the Society derived their interest from some extraordinary legend. Among the philosophical instruments were several by Sir Christopher Wren, including a weathercock, a rain-gauge, an instrument to demonstrate how far a ship could sail against the wind, and a perspective instrument. There were also a reflecting telescope by Newton and an instrument for working multiplication by Hook. Among the antiquities were a Roman urn of glass, 1,500 years old, presented by Wren; mosaics found at Holborn and Charing Cross; specimens of mortar from Roman buildings and old castles. The list of Fellows included almost all the foremost representatives of science at that time.

The public statues were less numerous than they are now. King Charles I. was a favourite subject. At Charing Cross was Lesueur's statue of His Majesty, which looked towards Whitehall. It stood in the centre of a stone circle 30 feet in diameter, which was further fenced with iron and stone. There was a figure of him in one of the niches on the west side of Temple Bar. There were two statues of him at the Royal Exchange. No less than three figures of Charles II. were to be seen in that building, besides one on Temple Bar. A figure of the Merry Monarch appeared in the centre of the basin of a fountain in King's Square, Soho; he was represented in armour. In connection with the fountain were four figures representing the Thames, Severn, Tyne and Humber, and above the figures were Latin inscriptions. There was also a statue of him at Stocks Market Conduit, which was presented by Sir Robert Viner. The statue of James II., which is still to be seen at Whitehall, was then to be seen in the great court of the palace. He also figured at the Session House of Southwark and the north side of the Royal Exchange. There was a relief of James I. on horseback on the north side of Aldersgate, and figures of the king were to be seen at the Royal Exchange, on Temple Bar and at Aldgate. The Royal Exchange was remarkable for the number of statues it possessed. In addition to those we have mentioned there were representations of Edward I. and Edward III., Henry V., Henry VI., Edward IV, Edward V., Henry VIII., Edward VI., Mary and Elizabeth.

The numerous statues in the building suggested a thought of Addison's, who in one of the *Spectators* said:—"When I have been upon the 'Change, I have often fancied one of our old kings standing in person where he is represented in effigy, and looking down on the wealthy concourse of people with which that place is every day filled. In this case how would he be surprised to hear all the languages of Europe spoken in this little spot of his former dominions, and to see so many private men, who in his time would have been the vassals of some powerful baron, negotiating like princes for greater sums of money than were formerly to be met with in the royal Treasury." On the front of Buckingham House were figures of Mercury, Apollo, Secrecy, Equity, Liberty and Truth. Another figure of Apollo adorned Somerset House. A figure of Atlas appeared over the doorway of St. Magnus Church. Augustus Cæsar was to be seen in Lincoln's Inn Walks, as well as Marcus Antoninus and Pompey the Great.

A nude Venus was in the garden of Somerset House, with a statue of CLEOPATRA as a companion. Among the figures on Ludgate Hill were those of THEOMANTIUS, ANDROGEUS and of the renowned King LUD.

The sanitary arrangements two hundred years ago were not of a kind which could be now approved. A bath, for instance, was a rather expensive luxury. There were public sweating houses or bagnios, which resembled to some extent modern Turkish and vapour-baths. The charge for admission was generally three or four shillings. At the Hummums in Covent Garden the charge was five shillings for a single person and four shillings if two or more entered. There was a bagnio set up in St. James's Street in 1699 where the charge was five shillings, or if the bather remained all night, ten shillings. It was claimed that the Royal Bagnio in Newgate Street was the only one in London which was built after a Turkish model. It contained a spacious room surmounted by a domed roof, and the walls were covered with Dutch tiles. To prove the advantages of the system one of the attendants used to be pointed out who for twenty-eight years was occupied four days in the week shampooing. A Mr. AYME established a bath in Long Acre. The price for a cold bath was usually half a crown, but it was generally supposed that cold-water bathing was only to be employed in certain varieties of illness.

In modern times there is a prepossession in favour of the eighteenth century, and especially the early years. ANNE's Augustan age was in many ways remarkable, but the privilege of being a contemporary of WREN and VANBRUGH, of BIRD and GRINLING GIBBONS, of KNELLER and THORNHILL had to be purchased by many inconveniences. London was then less desirable as a place of abode than the much-abused province in brick with which so many of us have to be satisfied.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. J. M. Brydon, vice-president, in the chair.

The Chairman said it was his first and sorrowful duty to announce the death of an honorary fellow of the Institute, whose fame was world-wide. John Ruskin had been a power in this country for more than half a century. Probably no man influenced architecture as he did. Ruskin was responsible to a great extent for that wave of Venetian Gothic which passed over the country, and of which examples were to be found in Oxford and London. More than anyone else, Ruskin woke up the English people to a knowledge of what art really meant, demonstrating that art was the life of the people of the country; that art, in the true sense of the word, was an ennobling faculty to raise men and make them think of higher and nobler things. The idea of truth was held in a very hazy fashion, and probably the idea of sacrifice for art's sake had never occurred to the great proportion of the English people until Ruskin told them what it really meant. They were, he thought, too near to Ruskin to estimate his true position in English life, in English literature and in art criticism, though he would venture upon the personal opinion that Ruskin was probably the greatest art critic they ever had among them. He hoped that it would be possible for the literature committee of the Institute to arrange that a paper might be written for a meeting in the near future on the great influence of Ruskin in relation to architecture in this country. In accordance with their custom he had to move that a letter of condolence should be sent to the late Mr. Ruskin's relatives in the loss they had sustained. The resolution was agreed to.

Award of Prizes.

The Chairman then read the deed of award of prizes and studentships for 1899-1900 as follows:—

The Institute silver medal and 25 guineas for an essay, the subject of which was "A Review of the Architecture of the Elizabethan Period (about 1550-1620)," was awarded to Mr. R. W. Carden, of 32 Leinster Square, Bayswater, W.

The Institute silver medal and 10 guineas for measured drawings of ancient buildings in the United Kingdom or abroad was secured by Mr. J. B. Fulton, of 23 Ampthill Square, N.W. A certificate and honourable mention was awarded to Mr. H. I. Triggs, of Chiswick.

The Soane Medallion and 100*l*. (for continental travel) was awarded to Mr. Cyril E. Power, of London.

The Owen Jones studentship (certificate and 100*l*.) was won by Mr. Geo. A. Paterson, of Glasgow. Medals of merit were awarded to Messrs. J. B. Fulton, of London, and J. Hervey Rutherford, of London.

The Pugin studentship (silver medal and 40*l*.) for travel in the United Kingdom was awarded to Mr. James M'Lachlan, of Edinburgh. Medals of merit to Messrs. E. W. Turner, of Peterborough, and J. A. Woore, of Derby.

The Godwin Bursary (silver medal and 40*l*.) was awarded to Mr. T. K. Greenslade, of Exeter.

The Tite Prize (certificate and 30*l*.) for travel in Italy attracted thirteen competitors, and was won by Mr. P. E. Nobbs, of Edinburgh. A medal of merit was awarded to Mr. W. A. Mellon, of London.

The Grissell Gold Medal and ten guineas (for design and construction) was awarded to Mr. C. E. Varndell, of London.

The Ashpitel Prize for 1899 was awarded to Mr. R. Turner Barker, of London.

Satisfactory reports and drawings were received from the following travelling students:—Messrs. James B. Fulton (Tite prizeman 1899), A. E. Henderson (Owen Jones student 1897), J. Hervey Rutherford (Pugin student 1899), E. W. M. Wonnacott (Godwin bursar 1899).

It was arranged that a further sum of 50*l*. should be granted to Mr. Henderson to enable him to prolong his studies in Constantinople.

The Chairman read a letter from Mr. Aston Webb, A.R.A., in which it was said that the committee of the Exhibition of Pictures in Aid of the War Fund had suggested that architects could in some way contribute to the undertaking, the manner not being prescribed.

Mr. Basil Champneys, B.A., read a paper entitled

The John Rylands Library, Manchester.

Mr. Champneys said that the circumstances which led to his being asked to undertake the building of the Rylands Library dictated to a considerable extent its general style and conformation. With a view to the selection of an architect Mrs. Rylands and her advisers had visited many buildings, among others, Mansfield College, Oxford, with which, and especially with the library, she was satisfied as fulfilling generally the intention and corresponding with the idea she had formed. Being commissioned to prepare a plan, the author concluded that the type of building must correspond to some extent to that of a college library, and that the style most adapted to the idea and likely to satisfy his client was that of Mansfield College. There were, however, special requirements which college libraries do not include. A very large number of books were to be accommodated. There were to be two independent departments—one for reference books, the other for loan—involving two separate entrances. Three large rooms were to be provided, one specially large for the purposes of conference, and two smaller for ordinary committees; rooms for the librarians in close communication with the principal library; refreshment-rooms for staff and visitors, with the necessary offices; rooms for unpacking, sorting, &c.; a caretaker's house, detached, but in close connection with the library; accommodation for engines and dynamos for electric light, and basement for hot-water washing and stowage, and for the preservation of muniments; a large and important vestibule, and ample and imposing staircase or staircases. The building to be as far as possible fireproof.

The existence of ancient lights on almost all sides of the site dictated to a large extent the general conformation. As the position made it impossible that any but the steepest roof could be rendered visible, and there was no loss of architectural effect involved, timber roofs were omitted almost altogether. The stone vaulting was covered with concrete brought to a level and covered with asphalte.

The author then gave a full description of the building, the disposition of the rooms and the manner in which he had met the various requirements.

With a view to obtaining adequate daylight for the library itself, to avoid unnecessary interference with the rights of adjoining owners and to secure quiet, the library was placed on the upper floor, some 30 feet from the pavement level, and set back about 12 feet from the boundary line at the sides. On the lower floor on either side a cloister or corridor, giving access to the ground-floor rooms, occupies the remaining space and is kept low, some 9 feet internal height, so as to allow of ample windows above it for lighting the ground-floor rooms, which are about 21 feet high. The whole of the front of the building is occupied by a spacious vaulted vestibule, the ceiling being carried on shafts.

The library consists of a central corridor 20 feet wide and 125 feet long, terminating in an apse, together giving an extreme length of 148 feet. The central hall is 44 feet from the floor to the vaulted ceiling, and is throughout groined in stone. It is divided into eight bays, one of which is on one side occupied by the main entrance, while the rest open into reading recesses. On this floor there are fifteen recesses occupied by bookcases.

Two staircases, one at either end of the main library, lead from the lower to the upper floor.

The reading spaces on both floors have bay windows; on the lower floor their ceilings are of oak ribs and modelled plaster, on the upper floor they are vaulted.

Adjoining the caretaker's house, which is separated from, but in immediate connection with, the main building, is a spiral staircase which leads to all the floors of the main building, and under the house are the boilers and furnace for the hot-water warming. The material used is mainly stone from quarries near Penrith. That used for the interior throughout is shawk, a stone that varies in colour from grey to a delicate tone of red. Much care has been used in the distribution of the tints, which are for the most part banded in an irregular combination. Many of the stones show both colours in a mottled form, and serve to bring the tints together. As towards the completion of the building it proved impossible to obtain a sufficient quantity of mottled stone, the main vaulting of the library had to be built in a way that gives a more banded effect than was originally contemplated.

Appropriate carvings decorate the several parts of the exterior of the building. Facing the main doorway is a symbolical group, carved in the stone employed throughout the interior of the building. The sculptor was Mr. John Cassidy, of Manchester.

A series of portrait statues by Mr. Robert Bridgman, of Lichfield, has been designed and arranged so as to represent many of the most eminent men of different countries and ages in the several departments of literature, science and art. These are placed for the most part in pairs, marking both correspondences and contrasts in character and achievement. The statues, twenty in number, are ranged in niches along the gallery front. They are supplemented by a series of pictured effigies in the two stained-glass windows, designed and wrought by Mr. C. E. Kempe, each window containing twenty figures, taken, wherever possible, from contemporary portraits. The great north window is symbolical of theology. The south window represents literature and art. The main design of the library, in its bearing upon philosophy, ethics and intellectual culture, is further illustrated by a series of Latin mottoes carved on ribbon scrolls between the windows of the clerestory, a printer's device being below each motto. The fronts of the bookcases consist of very large sheets of plate glass (9 feet 9 inches by 2 feet) contained in gun-metal frames. The exclusion of dust is provided for by rolls of velvet made elastic by the insertion of wool, which when the doors are closed are pressed between the door and a fillet.

Mr. Aston Webb proposed a vote of thanks, which was seconded by Mr. Leonard Stokes and supported by Messrs. Beresford Pite, H. H. Statham, E. W. Hudson and the Chairman.

THE PICTORIAL ART OF SIR E. BURNE-JONES.

On Monday a lecture was delivered in the Midland Institute, Birmingham, by Mr. Whitworth Wallis, on "The Pictorial Art of Sir Edward Burne-Jones." He said the dying century was taking with it into the darkness those whose names had been written largest on its annals. In art this had been particularly so, and that very evening they were under the shadow of the death of the greatest art critic of modern times—John Ruskin—whose strong but melodious voice had been ever raised on behalf of all that was noble and beautiful. In fact, of the seven or eight great names in art which would lend general lustre to the end of the nineteenth century, only two now remained—those able veterans G. F. Watts and W. Holman Hunt. In Birmingham they had a special interest in Burne-Jones—he was one of them; he was educated at the Grammar school; he had always taken an interest in his native town, and they possessed an unrivalled collection of his works. From the Grammar school he went to Oxford in 1852, where he met William Morris, who had then come up to Exeter College, and who was afterwards destined to become a great poet and Socialist apostle, and to exercise extraordinary influence upon the decorative art of this country. The friendship commenced thus early lasted throughout their lives, and both worked hand-in-hand for the glorification of many of our churches and other buildings. Burne-Jones whilst at Oxford saw many of the works of the pre-Raphaelite school belonging to Mr. Coombe, of the Clarendon Press. Rossetti's work made a great impression on him, and he determined to be an artist. He met Rossetti in 1855, and left Oxford just before Easter 1856, without taking his degree. He settled in London with William Morris, with Rossetti as guide and master, whose marvellous genius strongly influenced him, an influence which Burne-Jones once said "would transform a turnip into a rose." His earlier work was constantly overlooked by Rossetti, and his influence was very apparent. Yet each work was an onward movement, and within six or seven years Rossetti's mastery waned, and the artist started on his own road of expression. As showing the strong influence of Rossetti, Mr. Wallis exhibited and pointed out the principal features in "Sir Galahad," "Sidonia van Borck" and "Clara van Borck," and the "Backgammon Players." There was also a strong feeling for Rossetti in the famous "Merciful Knight," which caused such a profound sensation when first exhibited in 1864. Mr. Wallis said that it appealed to him personally as the noblest of all the artist's works, and in depth of spiritual feeling the artist had never equalled it. "Pan and Psyche" and the dramatic "Wine of Circe" showed a marked advance in drawing and modelling, as did also the "Love Among the Ruins," of which he exhibited a slide from the water-colour which had been so carelessly destroyed. Then followed a series of single figures such as "Hope," "Faith," "Charity," "Temperantia" and the splendid "Angels of the Creation," which the lecturer vividly described as unsurpassed in composition and in delicacy of form and colour. The next series of works, the salient points of each picture being pointed out, included "The Chant d'Amour," the popular "Mirror of Venus" and "The Golden Stairs," the impressive "Wheel of Fortune," "The Annunciation," "Dies Domini," the "Depths of the Sea," and the "Pygmalion" pictures. The lecturer then dealt with the great "King Cophetua and the Beggar Maid," which it was the intention of the admirers of the artist to present to the nation. Their own picture "The Star of Bethlehem" was also alluded to, and an interesting portrait shown of the artist at work upon the picture. Of the artist's portraits, to which branch of art Burne-Jones paid but slight attention, though he had left a few fine examples of his skill, he had special permission to show the beautiful portrait of the painter's daughter, Mrs. Mackail, Philip Comyns Carr, and that most whimsical of charming portraits of childhood, Miss Dorothy Drew (the granddaughter and playmate of Mr. Gladstone) Mr. Wallis also spoke of the artist's love of children, of the drawings he executed for them, of his youthfulness and sympathy with the little ones, which made him, as a friend once said, "the most perfect playfellow in the world" In concluding his series of the artist's greatest works, Mr. Wallis, by permission of Mr. Alexander Henderson, M P., and Mr George Agnew, was allowed to show the magnificent series of "The Briar Rose," those masterpieces which were exhibited in London only for a few weeks, and had since never been accessible to the public. These four wonderful works had occupied all the artist's skill and thought for many years, and all his manifold excellences of technique, his facility of execution and splendour of colour had been lavished upon the simple story of "The Sleeping Beauty." He felt they should have passed into the keeping of the nation, to stand for ever as monuments of English art. Mr. Wallis said he had only been able to touch upon one side of the painter's career; his decorative work would be left for another occasion, and to mention the beautiful things he had designed for every branch of art craftsmanship would be impossible. In the twilight of his studio he laid his brush down on June 16, 1898, and the next day passed peacefully away. It was impossible to emphasise the great loss sustained by English art If to create a world was art, then Burne-Jones must rank as one of the noblest and highest of all artists; he certainly had created for us a world of poetry and beauty. The passing hour of fashion had no attractions for him, and he turned from the dulness and the ugliness of the day to the romances and myths of fairy tales of the old world, which he peopled with the offspring of his brilliant imagination. His was a life of incessant labour, the result of which was a legacy of unequalled beauty which was not of to day nor to-morrow, because it was of that beauty which was eternal, because it was ideal.

CITY IMPROVEMENTS.

For next session the Corporation are promoting a Bill to acquire the garden in the centre of Finsbury Circus and to provide for its maintenance as an open space for the recreation and enjoyment of the public. They are also seeking powers for the acquisition and purchase of Spitalfields Market from the present owners and lessees and for its being carried on as a market by them, with the option, however, later on, of selling or leasing it to the new municipality of Whitechapel. The Corporation are further asking power to adopt the Baths and Washhouses Acts in the City, and to acquire land and raise money for the erection of such buildings They likewise desire to construct a crematorium at the City of London Cemetery at Ilford; to construct and make in, over, or under any street in the City public service works for purposes of water, gas, telegraphs and telephones; to prevent the erection of buildings across the streets without their consent, and to prohibit the exhibition of placards, notices, advertisements or announcements relating to horse-racing, football, cricket, or other sport whereby obstructions may be caused.

A Statue of Alfred de Musset is to be offered to the city of Paris by M. Osiris, who was acquainted with the poet.

NOTES AND COMMENTS.

A WEEK ago a chimney took fire in one of the offices of the Fine Arts Ministry, which are to be found in the Louvre. As the flue was connected with the adjoining offices of the Colonial Minister, it was feared that some State papers were in danger, but as an alarm was raised the fire was soon extinguished. The incident will confirm the apprehensions of those who believe that at the present time the treasures of art in the Louvre are not as secure as their importance demands. Owing to the financial needs of France some of the buildings have had to be utilised for public offices, and as every department is more or less independent, the regulations which are adopted in the museums are of no avail in the other departments. Besides, as the tenancy of the Ministers is supposed to be only temporary, although it may last for some generations, there is greater indifference to safety than is desirable. The whole group of the buildings no doubt is under the charge of one architect, but his power is restricted in a great many ways. It would, therefore, be advantageous if the subject of the protection of the galleries of the Louvre against fire received further consideration, and that all contingencies were guarded against with more foresight than is apparent.

FROM a lecture delivered a few days ago in the Sorbonne by M. MANGIN, it would appear that Paris possesses about 80,000 trees in the streets and public places of the city. It is calculated there are 26,000 plane trees, 17,000 chesnuts and 15,000 elms, the remainder consisting of sycamores, maples, lindens, &c. Apparently there is only one oak and one mulberry. Although the trees add so much beauty to Paris, there is a large percentage of mortality among them. In the centre of the city they suffer from want of air. In the gardens of the Luxembourg, Tuileries, and in fact in all which are surrounded with houses, what M. MANGIN calls the reverberation of the sun's rays is fatal to many trees. He maintains that the trees breathe not only by means of the leaves, but also by the roots, and consequently in streets where the ground is hard it is difficult for a tree to be in a healthy condition. Of late years the scavengers have cast salt on the pavement in order to dissolve the snow. The substance, he considers, is most prejudicial to the roots of trees. But M. MANGIN believes the greatest enemy to the Paris trees is the engineer, who carries out excavations without regarding their existence.

SIR JOHN LUBBOCK has been as happy in the selection of a title for the peerage which he has so honourably earned as in the selection of the subjects which have enabled him to gain a literary reputation. How could an authority on prehistoric archæology be more suitably designated than as "Lord AVEBURY"? Old JOHN AUBREY may have considered that his name suggested associations with the great earthworks, but AUBREY must yield to AVEBURY. The property belongs to Sir JOHN LUBBOCK, and while he possesses it there is no need for proposing to hand it over to Government authorities. The remains deserve all the care that can be taken of them. It is difficult to realise what Avebury was when crowds gathered for some mysterious purpose within the circles. But when we see the extent of the mounds we must believe that the men who laboured at them must have possessed some of the energy which was exhibited in its most complete form by the navvies who excavated and piled the earthworks on so many thousands of miles of railway in this nineteenth century.

ALREADY the French painters have become a little alarmed about the fate of their works which have been sent in for the International Exhibition. Some classes of pictures have had to be lodged during this month, and many others must be in the building before February 20. But when the artists see numerous workmen still employed it is only reasonable to conclude that the interior of the Palace of Fine Arts is in an incomplete condition. They imagine that in the course of the next couple of months injuries are likely to arise to their property, and apparently there is no official who can give any assurance of safety. The authorities of the Exhibition are compelled to demand that all works are presented at an early date, for otherwise so immense a show could never be arranged. Experience has proved there is no extraordinary risk awaiting works of art in exhibitions of the kind, and if pictures and drawings are not able to stand variations of temperature for a brief period within a building they are too delicate for sale. The experiments at South Kensington have proved that the deterioration caused by the display of works for twelve hours a day is almost too infinitesimal to be observed, and in the Champs-Elysées we suppose there will not be more dangers than are to be met with in London.

AN average man of business would suppose that owing to the condition of the money market and the high price which has to be paid for loans, the present is not a favourable time to raise the large sum of 2,724,500*l.* to purchase the remainder of the property required for the new roadway between Holborn and the Strand. It is maintained, however, that the inevitable high rate of interest is counterbalanced by the ability to purchase property for lower prices than the Council anticipated. Surveyors will no doubt be surprised at the phenomenon, which is certainly not in keeping with their usual experience in similar cases. But then all the conditions of the Council's finance are usually found to have something mysterious about them. What is prophesied by their experts rarely comes to pass. The owners of property along the route know that the thoroughfare must be constructed, and the purchase of the buildings is therefore inevitable. We must admit that if a part of a street be demolished the houses remaining are likely to be less advantageous for business purposes or as residences. In that way, no doubt, there would be some ground for the Council's expectation of a fall in the price of property. The Council, however, decided to raise the money regardless of the rate of interest, and we hope they will be able to turn it to profitable account.

IN external appearance the brochure called "Abbeys around London," by Mr. JOHN A. RANDOLPH (The Mercantile Press), does not correspond with the majority of archæological publications, but it would be difficult to obtain the amount of information found in the pages in any other form for so small a sum as a shilling. There are, too, reproductions of many old engravings and drawings. The history of no less than twenty-four abbeys is given, and Mr. RANDOLPH must have laboured long to have collected so many details. Thanks to cycling there is now more interest taken in ruins than formerly, and as Mr. RANDOLPH's work is without a stiff cover it can easily be carried about by a wheeler. For reference purposes it will be useful to many students who do not possess the county histories in which the abbeys are described.

ILLUSTRATIONS

WESTMINSTER ABBEY: TRANSEPT, LOOKING NORTH-EAST. THE TRIFORIUM, NORTH SIDE OF SACRARIUM. DETAILS OF NORTH PORCH

MINLEY MANOR, FLEET, HANTS.

THE CAULIFLOWER, ILFORD.

SCREEN AND ALTAR, CHURCH OF LITTLE STANMORE, EDGWARE.

THE church of Little Stanmore, with the exception of the tower, was entirely rebuilt by the Duke of CHANDOS in 1715. It is profusely decorated throughout with paintings by the Italian BELLUCCHI and the French artists VERRIO and LAGUERRE. The recess which contains the organ is flanked by Corinthian columns of solid oak with entablature. All the carving, including the organ case, is said to be by GRINLING GIBBONS. On the organ case is a small plate with this inscription:—"HANDEL was organist of this church from the year 1718 to 1721, and composed his oratorio of 'Esther' on this organ."

The present screen has been erected in place of the solid one of recent date which obscured the view of the organ. It is intended to surmount the canopy with a figure of St. LAWRENCE, to whom the church is dedicated. The screen was executed in English oak by Messrs. DUÉ & GRADL, of 7 Union Mews, Union Street, W. Messrs. W. H. BONEY & C. H. WAINWRIGHT, of 124 Chancery Lane, were the architects.

THE DESIGNING OF ELECTRICAL GENERATING STATIONS.*

IN complying with the Council's request to read a paper on the above subject I did so with some diffidence, fearing it was hardly of sufficient general interest, electrical generating stations being comparatively few and far between, and their design being often entrusted to electrical consulting engineers, who make a specialty of this class of work. However, I hope to be able to give a description of a typical station, together with some particulars and data; also to show some views of exteriors, interiors and details that may be of some general interest.

The first matter to be considered, which naturally largely affects the design, is the

Selection of Site.

In doing this many matters of vital importance to the ultimate economical working have to be considered. It should, if practicable, be near a river, canal or railway, so that coal may be unloaded direct from the barges or trucks into the coal bunkers, preventing the necessity of cartage, which involves a large extra outlay each year. It should not, if possible, be in the centre of a residential neighbourhood, as this involves many difficulties, such as complaints as to alleged vibration, noise, smoke, condensed steam, &c., in most cases unfounded, but at the same time involving cost to refute. One instance in this respect came under my notice where adjoining owners brought an action for damages in respect of vibration. They stated that they had kept careful note of the times when the vibration complained of was extremely bad, and the worst period was when the company in question were able to prove that no engines were running. Another instance was a chimney shaft in the centre of a residential neighbourhood in connection with a generating station, which had been disused for this purpose on account of the company requiring much larger works, the chimney shaft therefore being entirely out of use and having no flues or boilers connected therewith; notwithstanding this, complaints were made by adjoining owners of the smoke, &c., but in this case happily it was not difficult to refute the alleged nuisance.

Another consideration in selecting a site is possible actions for damage to ancient lights. Care, of course, is necessary in all cases, but more particularly so in the case of an electric light company, most people thinking that a company of this description with a large capital behind them are "fair game to shoot at," and therefore endeavour to obtain injunctions and other pleasant legal hindrances which are annoying to the architect, who is generally pressed to rush the building up as quickly as possible.

One other, and although last, by no means least, important thing to be considered in selecting a site is space for future extension. In starting, a company usually does not wish to overburden itself with a large capital, and therefore the ground taken is often only sufficient for the building immediately required; in the course of a few years as the company grows and has to meet a larger demand for supply of current, more generating plant is required and further building becomes necessary, and this then means either having two or more stations with a larger staff required than is concentrated in one station only, or in obtaining statutory powers (in itself an expensive luxury) and the compulsory purchasing of the various interests of adjoining owners and occupiers, when enormous claims have to be met and compensations paid. It is therefore false economy in the first place not to acquire a large enough site for all contingencies of extension and growth which may be anticipated for many years to come.

Other matters in selecting a site have to be considered, such as the nature of subsoil, facilities for drainage into parish sewers, &c., but as these are common to all building operations and not special to electric light buildings, I will make no particular reference to them.

Having considered the questions relating to acquisition of site, the next matter for consideration is the

Design and Construction of the Buildings.

In the first place, it is usual for an electrical engineer to decide upon the system of supply to be adopted, and to formulate a scheme and prepare sketch plans showing disposition and space required for machinery, plant, &c. The architect then has to design his buildings to meet the requirements of the engineer, and practically as a shell to cover and protect the engineering plant. The ideas and wishes of the electrical engineer should therefore always be studied and adopted, as the primary function of a building of this description is the supply of current and not as a testimony of the architect's artistic taste (if he has any). Engineers' architectural ideas, however, as a rule do not run on parallel lines with those of an architect (for instance Vauxhall Bridge), but the suaviter in modo system is far more preferable than endeavouring to force one's own taste and inclinations.

The plan of necessity depends to a large extent upon the shape of site, but simplicity and economy of working should be the keynote.

It is needless to say that in the London district the buildings must be planned in accordance with the Factory Act and also the London Building Act, the latter, however, having special clauses relating to electrical generating stations, whereby the Council have power to authorise buildings to be erected of greater cubical dimensions than 250,000 cubic feet, and in other respects to exempt such buildings from any of the provisions of the Act if they think fit.

The following are the principal departments for which provision must be made in the plan:—1, coal stores; 2, boiler-house; 3, engine-house; 4, workshops; 5, stores; 6, meter and testing-rooms; 7, engineers' apartments; 8, offices and also battery-rooms, if any batteries are proposed to be erected at the generating station.

1. *Coal Stores.*—These should be situated adjoining and readily accessible from the boiler-house. They should be divided into a number of bunkers to obviate danger of fire and for other reasons; one to each pair of boilers is a convenient arrangement, so that a check may be kept upon the consumption per boiler. Generally, however, from contingencies of site the coal bunkers cannot all be placed near the boilers, in which case it is necessary to have a system of iron tip-up trucks running on narrow gauge rails from the vaults, with turn-tables at any point where the trucks have to turn at right angles. The doors to bunkers should be of iron, hung to lift with counter-balance weights; the flooring is usually of concrete or blue Staffordshire bricks. Where the coal is shot into bunkers out of carts, it is well to have several removable coal plates and shoots to each bunker rather than one central one, as in the latter case it is difficult to fill the coal bunker to its utmost capacity without trimming the coal, which entails much labour.

As to capacity of coal vaults, sufficient coal should be accommodated to supply the boilers for at least three weeks or a month, and, of course, if space be available the greater amount of coal-storage capacity the better.

2. *The Boiler-house.*—A convenient arrangement is for the boiler-house, where practicable, to run parallel with the coal-bunkers, also with the engine house. It is usual to sink the level of the boiler-house floor some 8 or 10 feet below that of the engine-house, so that the steam pipe from the crown of the boilers may be conveniently placed with regard to the engines, also so that coals may be shot down from the ground level into the coal bunkers beneath, the flooring whereof necessarily being at the same level as the boiler-house floor for ease of stoking. The space required in the boiler-house depends upon the type and size of boilers, but there should be at least a space of 16 to 18 feet between the boiler and wall opposite fire door for convenience of stoking, also so that boilers, drums and tubes may be conveniently removed, swung round and replaced with new ones, and for this purpose also large doors must be provided for ingress and egress of new and old boilers, as may be required in the course of years.

The boiler-house should be lofty, well-lighted and ventilated by a continuous skylight running from end to end of the building, with louvre boarding at the sides, the skylight being glazed with one of the many patent systems of glazing, rather than by the old-fashioned wooden bar.

Space must be provided in the boiler-house for further engineering plant, in addition to the boilers, such as feed-water heating and detartarising apparatus, Green's economisers, &c., depending upon the scheme adopted, and particulars of space required for these must be obtained from the engineer when planning the building.

Stokers' lavatory and urinals should be provided readily accessible from the boiler-house; also a stoker's mess-room, with cooking range, &c.

With regard to the chimney shaft or shafts, if a single shaft is decided upon it is best to place it in the centre of the range of boilers, with the horizontal flue running right and left thereof so that boilers may be added as the works grow, and in selecting the position of the shaft future extension must be borne in mind. It is, however, advisable where funds and space permit to have two shafts of smaller capacity rather than one shaft of large capacity, so that in the event of repairs being necessitated through damage from lightning or other causes one may be shut down whilst the other is working. The area of the shaft should also be amply large enough to provide for all future boilers that may be required, and in the London districts particularly it is advisable to carry up the shafts at least 150 to 200 feet, so as to distribute the products of combustion at as high a level as possible.

The shaft must also, of course, be designed in the London districts in accordance with the regulations of the Building Act. I fear it would be wearying and extend this paper too much to touch upon the calculations requisite in designing a shaft relating to draft, wind pressure, stability, &c., all of which, however, are of much interest, but I must content myself this evening by making a few general remarks relating to construction only.

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* A paper read on January 25 by Mr. A. Roberts, M.S.A., before the Society of Architects.

There is a diversity of opinion as to the best form of chimney, some authorities arguing that a circular chimney is better than a square; but the shape usually adopted for electrical stations, however, is an octagonal form of unequal sides, or rather a square chimney with the corners taken off. In calculating the area it must be borne in mind that the actual effective area of a chimney is less than the entire internal superficial area of the shaft, as the velocity of the gases is retarded by friction on the sides of the shaft, and it is usual to take for the effective area the total area less 2 inches all round.

The horizontal flue conveying the gases from the boilers to the shaft should be of a larger sectional area than the shaft, as these get constricted by deposit of soot, and if entering the shaft from opposite sides a midriff or central division wall should be carried up the centre of the shaft some 15 or 20 feet, constructed of firebrick.

The shaft foundations of necessity are of vital importance and must be of sufficient area to carry the load, which is usually very great, without sinking into the ground beneath. They should be allowed to stand some months before the brickwork of the superstructure is commenced, as it takes some time for a large body of concrete, 30 or 40 feet square by 8 or 10 feet deep, to set. The bricks should be specially selected, particularly at the base, to withstand the load, which often amounts to 8 or 10 tons or more per foot super; they must not, with the exception of the cap and footings, be laid in cement, on account of its unyielding nature, and its not withstanding heat so well as lime mortar, also a shaft built in cement usually cracks.

The materials should be frequently tested during the erection of shaft, particularly bricks for crushing strains.

An extremely good mortar for shafts which I have used, and which is used largely in the north, is composed of blue lias lime, sharp sand and foundry ashes, in the proportion of 1 of lime, 2 of sand and 3 of ashes; the joints should be kept thin, and to prevent the shaft being blown out of the upright before the mortar has set the brickwork should not be carried up too quickly.

A special bond is often adopted for shafts in which a large number of stretchers are used, as longitudinal tenacity is required to prevent a shaft splitting; for this reason hoop-iron bond, well tarred and sanded, should also be built in at frequent intervals. In selecting the position for a shaft it is preferable that it should stand alone and not be attached to any buildings. If, however, from necessity of plan it must be in continuation of walls of a building, there should be no bond between the shaft and the wall adjoining, but a straight joint to allow the shaft to expand and contract; also, it should be built first so that any settlement may take place before the walls are built adjoining.

The cap should be of simple design, not of too great projection, and little or no stonework employed in its construction, as in the event of this becoming disintegrated by frost it is costly and difficult to repair, and a heavy cap causes the shaft to oscillate in a wind with longer pulsations, and there is more chance of its being overthrown. A cast-iron capping, built up in sections and bolted together, forms to my mind the best finish at the top, and to this the lightning conductor may be readily fixed and stayed.

The shaft should be frequently plumbed to insure a uniform batter, and great care should be taken in its construction to see that no bats are used.

A firebrick lining is necessary, which should be carried up according to the height of the shaft some 80 to 100 feet, the firebricks being laid in fireclay and usually carried up perpendicularly (*i.e.* with no batter), with a space averaging about 2 inches between the outer wall and the lining. It must have no bond with the outer wall, and to steady it headers are usually projected through the 2-inch space at intervals to touch the lining with sand joints.

To prevent soot and cinders falling and blocking up the 2-inch cavity, the brickwork of the shaft must be racked out to cover up the cavity at the top, but room must be left to allow the firebrick lining to expand.

It is essential in firing a chimney for the first time that heat should not be applied too suddenly, or there is danger of the chimney splitting, so it is well to allow a little heat to pass up for some weeks before it is necessary to use it to its full capacity.

Foot irons are usually built into the interior of the shaft from base to cap, to afford access for repairs, &c., and in most electric generating shafts the exhaust steam-pipe is carried up the centre of the shaft, and the stays to keep same upright must not be bonded into the firebrick lining or main walls, but should rest on the offsets where the brickwork is reduced in thickness, to allow the exhaust pipe to expand and contract; as this exhaust pipe and the heated column of steam inside forms the readiest path for a flash of lightning, it must be carefully earthed and connected up to the lightning-conductor. The boilers usually adopted in London stations are of the water-tube type, as with these steam may be more quickly got up than with any other form, and this is an essential where sudden fogs and consequent darkness are so prevalent. I am afraid I shall weary my hearers if I do more than show a detail of boiler setting of this type, also a view of a battery of boilers.

3. *The Engine-house*—This, as I before said, should be parallel if possible with boiler-house, so that steam pipes from boilers are as short as possible and may be carried direct through the wall separating same to engines; its dimensions, of course, depend upon the number of engines and type proposed, and here the engineer must again be consulted.

It must provide accommodation not only for the engines and dynamos, but for switch-boards, and should also either contain engineers' mess-room and lavatory, or have same conveniently adjoining.

It should be lofty, well lighted and ventilated by either skylights or ranges of windows so planned that through ventilation may be obtained, as it is essential not only for the personal comfort of the staff, but also for the plant, that the temperature should not be too high.

Cleanliness is of extreme importance in the engine-house, as dry, gritty particles in the atmosphere, or blowing about in the wind, would shortly do irreparable damage to the bearings of the machinery, revolving at such high speeds as it does. For this reason, therefore, it is usual to face the walls (and where stores and other departments are over the engine-house, the ceiling also), with glazed bricks which are cleanly and reflect the light, insuring a bright engine-house. These may also be easily wiped down, and therefore save the annual cost of distempering or painting the wall surfaces that would otherwise be necessary.

Window frames in the engine and boiler-house should be of steel or iron rather than wood, as the unavoidably high temperature causes the latter to shrink and wind, and the former are also more fireproof.

An overhead traveller is essential in an engine-house for erection and removal of engines, dynamos, &c., and corbels should be built in the walls as the works proceed, or some provision made for carrying rails thereof upon which it travels.

The flooring of engine-house must receive careful consideration. It should be carried entirely independently of the engine beds, so that the vibration set up by the engines may not be transmitted thereby, and it should be paved with some cleanly, insulating material, if possible, not slipping. Wood-block flooring soon gets greasy and unsightly, and the best material I have found so far is unglazed red tiling, although this has the objection of not being a good insulating material.

The engine beds are usually constructed of a continuous block of concrete (not separate beds for each engine), which is carried down 6 or 8 feet, and carefully constructed and levelled, so that vibration shall not be transmitted to the ground beneath. Many methods have been tried, successfully and otherwise, to prevent the transmission of vibration. That adopted at the Chelsea Station, which has proved very satisfactory, is to first construct a foundation of concrete 9 inches deep, on this sheet lead is placed, then two layers of continuous matting similar to an ordinary door-mat, but very much thicker; on this lead sheeting is again laid, and on these insulating layers the concrete superstructure of the engine bed, about 7 feet deep, is erected, which is shown on the view now on the screen

The position of the holding-down bolts for the engines must be ascertained, boxes constructed and accurately placed in the right position before the concrete is shot into the beds, so that after the concrete has set the wooden boxes may be taken out and the holding-down bolts, with anchor plates attached at the bottom, may be let into the cavities thus formed and grouted in with fine concrete and cement.

Switch-boards should be constructed of some fireproof material, slate slabs in timber framing being one of the best forms of construction. The switch-boards should be raised one step above the engine-house floor level on a continuous platform, so as to isolate the switches and enable the operator working same to have a good view of engine and dynamos. India-rubber mats are provided to stand on when operating the switches.

A convenient office should be arranged, if practicable, for the electrical engineer in charge, with a window looking into and commanding the working of the engine-house.

4. *Workshops* must be provided for carpenters, engineers and fitters, &c., with lavatories, messroom and office for foreman, the floor space for these depending upon the size of the works, and there is little in the construction of these of special interest.

5. *Stores.*—These are an essential department of an electrical station. They should be conveniently situated near the workshops; also, if on the upper floors, lifts and hoists must be provided in connection with same. Racks are requisite for the various articles stored, and an office for storekeeper at the entrance.

The stores generally, like the whole of the building, should be of fireproof construction and a special store, provided with iron doors, for oil. In calculating the strains and stresses in steel construction carrying floors of stores, it is well to err on the side of excess, as the loads carried are usually very great.

6. *Meter and Testing-rooms* have nothing special to call for remark; stoves should be provided here for warming purposes and benches for storing meters, testing, &c.

7. *Engineers' Apartments* should be situated naturally with the best outlook, and if over the engine-house, made sound as well as fireproof as far as possible. The accommodation required, of course, depends on the number of the staff.

8. *Offices* are often situated away from the generating station, and must provide accommodation for secretary and staff, chief engineer and staff, draughtsmen's rooms and board rooms, and have nothing special to call for note.

Battery-rooms must be well ventilated to allow of the escape of gases, and the floors should be of cement or acid proof asphalte, with channels therein to carry off contents of the cells if they should get broken.

Accommodation must be provided on the roof, in some convenient and accessible position, for water tanks, as a large storage of water is essential, so that in the event of burst mains or other causes preventing supply no inconvenience is occasioned.

With regard to construction generally, an electrical generating station should be substantial and of fire-resisting materials, as it is of extreme importance to prevent fire, not only on account of the damage done to works, but as a fire would damage plant and prevent the supply of current, which is a most serious matter. Also the premiums charged by insurance companies for electrical buildings are extremely high in any case, and would be more so unless the building throughout were of a fireproof nature.

A system of fire hydrants should be fitted throughout the building, and in most electrical stations the staff are exercised in fire drill.

All walls (at any rate those of engine-house) should be carried down to same level as foundations of engine beds, and a clear space should be left all round the building between external walls and those of adjoining buildings to prevent transmission of any vibration.

There are many other points in the planning and construction of electrical generating stations that require consideration, but I hope to have given some general idea of the special matters to be thought of, which may prove of interest.

I had hoped to be able to show views of several stations beyond those I have erected myself, but have been unable in the time at my disposal to do so with one exception, and that is the St Pancras electrical generating station, plans of which I am now able to show you through the courtesy of its chief electrical engineer, Mr. Sydney W. Baynes. This station is an extension of a smaller one, and has been planned upon a rather awkwardly shaped site.

CHRIST'S HOSPITAL.[*]

WE owe the foundation of this, "the noblest institution in the world," to the exertions of the citizens of London to provide for a large houseless population, in which good work the citizens were greatly assisted by grants from King Henry VIII.

It was long customary to designate King Edward VI. as its special founder; but historical records show that King Edward had little to do with the foundation of Christ's Hospital; both the house itself and the revenues for its support came from his predecessors, or were raised by the bounty of the citizens themselves; the young King Edward bestowed upon the Hospital its name and conferred upon it certain grants for its support in connection with the Hospital of Bridewell, which the king had founded, and St Thomas's, which the citizens themselves had purchased.

The story runs that the king's attention was directed to this foundation by a sermon preached before him by Bishop Ridley in the year 1552; and that in consequence the king sent by the bishop a letter to the mayor, "declaring his special commandment that the mayor should travail therein," which are the words of the old chronicler Grafton.

But this was not until after the citizens had done what they could and found that they required certain aid from the Crown.

Bishop Ridley himself, in his farewell letter to his friends, written shortly before his martyrdom, attributed the chief merit to the city magistrates, first to Sir Richard Dobbs, in whose mayoralty the renewed effort was made, and next to his successor, Sir George Barnes. In order to furnish a still more effectual remedy for the wounds of the commonwealth, Edward VI. devised a system of parochial education throughout the kingdom. "This," said the youthful monarch, whose sagacity was much beyond his years, "shall well ease and remedy the deceitful workings of things, disobedience of the lower sort, casting of seditious bills, and will clearly take away the idleness of the people." His early demise interfered with the accomplishment of the design, which has since been carried out by public exertion.

But he had already endowed several schools besides Christ's Hospital, which proved the value which he attached to the blessings of education.

By degrees and in the gradual succession of years, it appears that an increasing interest began to be taken in the children, as we find a Lewis Randall giving 50*l.* towards providing a dinner of roast meat for them every year on St. Matthias's Day, unless the feast should fall in Lent; and in that case "good furmity was to be substituted, both at dinner and supper."

When the Grey Friars came to London in the thirteenth century they established themselves on the north side of what we now call Newgate Street. Here I think it will be interesting to note the origin of this order.

About the beginning of the thirteenth century a certain Italian, whose parents were rich, had been greatly given to the pleasures of this world, when in his twenty-second year he was stricken down by a severe illness.

Such was the severity of this illness that it had the effect of completely changing the character of his mind, for he forthwith turned his back upon the world and its vanities, and gave himself up to the study of the Gospel and to the meditating upon things holy and divine.

A mind so constituted as to be capable of at once flying from one extremity to another is generally easily led to adopt still more strict views in working out the religious ideas with which it has become imbued. Accordingly this personage, when his mind was thoroughly inspired by the nature of his meditations, happened one day to enter a church where he heard Our Lord's injunction given to His apostles in the tenth chapter of Matthew. With this he was so forcibly impressed that he adopted the language of the tenth verse and applied it to himself, resigned his possessions and determined henceforth to devote himself entirely to the practice and encouragement of religious mortification.

His disinterested conduct was followed by many persons of a similar turn of mind, and he was soon enabled to form an order which assumed his own name, and which was that of St. Francis.

The rule by which this order was bound was that of inculcating absolute poverty as the essence of all religion. The monks of the order were called Minorites, and also Grey Friars, because of the colour of their habit.

Such was the origin of the Order of St. Francis, which was instituted in 1209, and in ten years grew to upwards of 5,000. In 1224 a deputation of nine of them (four clerics and five laics) arrived in England with letters from Pope Honorius III. Here in Newgate Street, aided by the citizens, they built first a chapel, then a church, and then again a much larger church, the latter between 1301 and 1327.

In 1539 they surrendered to King Henry VIII., in whose hands the house remained for some time. Just before his death he provided that the church of the Grey Friars should become the parish church of "Christ's Church within Newgate."

It appears that Christ's Hospital was not originally founded as a school; its object was to rescue young children from the streets, to shelter, feed, clothe, and lastly to educate them.

The citizens had already received from the king the monastery of Grey Friars, and from its new parish church came the name of Christ's Hospital.

When the citizens had collected sufficient funds they repaired the Grey Friars' buildings, and on November 23, 1552, the poor children were received to the number of about 400.

Before the forty-third year of the reign of Elizabeth the relief of the poor in each parish was effected as far as possible by contributions of the richer inhabitants.

In the reign of Henry VIII. (1535), when the impending ruin of the religious houses threatened the country with a "multitudinous sea" of vagrants who had previous to this period been relieved by the liberality of the monastic institutions, an Act was passed which imposed upon all governors of shires, cities, towns, hundreds, hamlets and parishes the burden of supporting "every aged poor and impotent person which was born or dwelt three years within the same limit, by way of voluntary and charitable alms in every the same cities, and with such convenient alms as shall be thought meet by their discretion, so as none of them shall be compelled to go openly in begging."

To return to Christ's Hospital. When the Lord Mayor and aldermen rode to St. Paul's on the following Christmas Day all the children stood in array from Lawrence Lane-in-Cheap towards Paul's, "attired in a livery or dress of russet cotton, the boys with red caps, and the girls with kerchiefs on their heads, having a woman keeper between every twenty children; and accompanied also by the physician and four surgeons, and the master of the hospital."

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[*] A paper read by Mr. Alexander at the visit of members of the Upper Norwood Athenæum.

At the following Easter the boys and "mayden children" were in "plonket," or blue; hence Christ's Hospital also became called the "Blue Coat School."

It has been imagined that the coat was the mantle, and the yellow, as it is technically termed, the sleeveless tunic of the monastery; the leathern girdle also corresponding with the hempen cord of the friar.

There is an old tradition among the boys that the dress was originally of velvet, fastened with silver buttons, and an exact *facsimile* of the ordinary habit of Edward VI. It is most reasonable to regard the dress as copied from the costume of the citizens of London at this period (1552), when long blue coats were the common habit of apprentices and serving men, and yellow stockings were generally worn. The school is vulgarly called "The Yellow Stocking School." The coat fits closely to the body, but has loose sleeves, and beneath is worn a sleeveless undercoat; around the waist is a red leather girdle, a clerical band round the neck, and a small flat black cap, about the size of a saucer, complete the costume.

While the citizens were perfecting the good work, King Edward was seized with small-pox, from the effects of which he never recovered.

When, however, the scheme for the endowment of the Royal Hospital was placed before the pious prince, and, according to the usual practice, a blank had been left for the amount of property which the City were to receive for this object, Edward, with his own hand, wrote in the sum, "4,000 marks by the year," and then exclaimed, in the hearing of his Council, "Lord, I yield Thee most hearty thanks that Thou hast given me life thus long to finish this work, to the glory of Thy name."

Among the early bequests is the following:—

"When the hospital was erected and put into good order, there was one Richard Castel, *alias* Casteller, shoemaker, dwelling in Westminster, a man who was called the 'Cock of Westminster,' because both winter and summer he was at work by four o'clock in the morning. This man thus steadily and honestly labouring for his living purchased land and tenements at Westminster, worth 44*l.* per annum, and having no child, with the consent of his wife, who survived him, gave the same land wholly to Christ's Hospital, and for the succour of the miserable, sore and sick harboured in the hospitals about London."

The ancient Hospital buildings suffered materially in the Great Fire of 1666, when the church of the monastery was entirely destroyed

The Hospital was rebuilt by the Governors, anticipating its revenue from the endowment of the king and other sources. The great hall was rebuilt by Alderman Sir John Frederick, at a cost of 5,000*l*

The first important addition to the foundation after the Fire was the mathematical school, founded by Charles II., 1672, for forty boys to be instructed in navigation. They are called "King's Boys," and wear a badge on the right shoulder. Lest this mathematical school should fail for want of boys properly qualified to supply it, one Mr. Stone, a governor, left a legacy to maintain a subordinate mathematical school of twelve boys ("The Twelves"), who wear a badge on the left shoulder, and to these have been added "The Twos."

The mathematical school was originally designed by Samuel Pepys, then Secretary to the Admiralty.

Sir Robert Clayton, Sir Jonas Moore, Sir Christopher Wren and Sir Charles Scarburgh were among the Governors of Christ's Hospital at this time. To these the famous name of Samuel Pepys was afterwards added.

There is preserved a collection of letters between Pepys and Major Aungier, Sir Isaac Newton, Halley and other persons, relating to the management of the mathematical school, and containing details of the career of some of the king's scholars after leaving school The letters extend from 1692 to 1695, and are the original letters received by Pepys, with his drafts of the answers.

Pepys, it appears, printed and handed about privately some letters about the abuses of Christ's Hospital. He certainly saved from ruin the mathematical foundation. This was the first considerable extension of the system of education at the Hospital, which originally consisted of a grammar school for boys and a separate school for girls, the latter being taught to read, sew and mark

Pepys relates the following curious story of a Blue Coat girl:—"Two wealthy citizens are lately dead and left their estates, one to a Blue Coat boy and the other to a Blue Coat girl in Christ's Hospital, the extraordinariness of which has led some of the magistrates to carry it on to a match, which ended in a public wedding—he in his habit of blue satin, led by two girls, and she in blue with an apron green and petticoat yellow, all of sarsenet, led by two of the boys of the house, through Cheapside to Guildhall Chapel, where they were married by the Dean of St Paul's, she given by my Lord Mayor."

The wedding dinner, it seems, was kept in the Hospital hall. A description was contained in a letter to Mrs. Steward, which concluded thus:—"Bow bells are just now ringing ding dong, but whether for this I cannot presently tell, but it is likely enough, for I have known them ring upon much foolisher occasions, and lately, too."

From 1553 to 1600, which embraces the first forty-eight years of the foundation, the donations and bequests principally made by governors amounted to 9,828*l.* 9*s* 8*d.* The estates granted or presented within the same period, exclusive of a magnificent benefaction from Lady Mary Ramsey towards its close, produced an annual rental of over 4,000*l* Notwithstanding this apparent wealth, however, the Institution was in reality in considerable difficulty.

At this period it maintained and educated 400 children and relieved with alms a vast number of poor. This enormous draught upon its funds compelled a reduction in the number of its inmates and pensioners, and it appears that in 1580 there were only 150 children on the books, and in 1597 we find that the hospital was in debt 800*l.*

Through the efforts of the Lord Mayor, who had "a good liking to relieve the house," and other benevolent persons, including the grants of Dame Mary Ramsey, it soon began to disencumber itself of its embarrassments. Amongst the other gifts of this benefactress to the institution she merits the honour of having laid the foundation of that distinction which the scholars of Christ's Hospital have from time to time attained in the University of Cambridge. Prior to this the hope of academical preferment was held out to children who discovered a more than ordinary aptitude for learning, and in the year 1566 an allowance of twelve pence a week was given to an exhibitioner at Cambridge. Three years after this an application was made to Cecil, the sagacious secretary to the illustrious Elizabeth, to petition Her Majesty for preferment for the children at the University, and a supply of books, with eightpence a week, till he obtained a fellowship, was ordered in the same year (1569) to a student at Oxford.

It does not appear that the suit was granted; at any rate no permanent assistance for similar purposes seems to have emanated from the royal benevolence.

The following portion of a tablet, therefore, commemorative of the charitable deeds of Lady Ramsey to Christ's Hospital seems worthy of being brought under notice. It was affixed to one of the pillars in Christ Church, and kept its place until the Great Fire:—

> Behold the workes of God, done by His servant,
> Dame Mary Ramsey.
> She hath given a yearly maintenance for two fellowes
> and four scholars in Cambridge,
> More, two livings of good value when they shall become fit to supply them.
> More, towards certain sermons to be preached in this church yearly.
> More, in Christ's Hospital a free writing school for poor men's children.
> More, in the country, a free grammar school for the poorer sort.
> All which several gifts before remembered are to continue
> yearly for ever.
> The rest of the Godly Worke done by this Good Lady—
> She hath given a worthy maintenance to the poore of Christ's Hospital.
> More, a bountiful gift for the healing of poore wounded souldiers.
> More, a liberal maintenance for poore maimed souldiers.
> More, a liberal maintenance for ten aged widows.
> More, a bountiful gift to release poore men out of prison.
> More, a bountiful gift to relieve poore men in prison.
> More, a yearly stipend to poore maide's marriages.
> More, to the relief of the poore of several parishes.
> All which several gifts are for ever.
> This benevolent lady lies buried in the Parish Church of
> St. Mary Woolnoth.

In 1780 the Lord George Gordon riots took place in London, and as an idea had prevailed among the populace that the children of Christ's Hospital were being nurtured in the principles of popery, on the night of June 2, when the gaols were burnt by the mob, the prisoners who had made their escape from Newgate assembled in the outlet of the Grey Friars for the purpose of striking off their fetters. They then demanded to be admitted within the gates of the Hospital, but Mr. Wales, who was then the mathematical master, would not permit this, and by his firm and manly remonstrances succeeded in convincing them that they were under a mistake, and that no benefit could ensue but much evil arise from making an attack upon harmless and defenceless children.

Had this not been the case, who can tell what might have been the consequence? A second "Massacre of the Innocents" might have taken place within the precincts of an institution specially erected for their protection.

Since 1839 Christ's Hospital has been open to all classes of children, without any preference in favour of those whose parents are free of the City of London. Every child who is a subject of Great Britain is eligible for admission upon the nomination of a governor. The school possesses no income under the charter, its support having always depended upon benefactions and bequests, many of which have been of the most munificent character. The gross income of the Hospital may be stated at about 70,000*l.* a year, but as there are numerous charities for the blind and aged to be provided for, as well as funds for exhibitions, outfits for sea, rebuilding and repairing, the income for the maintenance of the establishments in London and Hertford is brought down to about 45,000*l.* a year.

In London there are sixteen wards, making up 763 beds, and at Hertford eight wards, making up 446 beds, besides the girls' school, in which there are at present only twenty girls. The total number of children on the foundation is about 1,220 Among the illustrious and well-known names of men who have been educated at this school we may mention Thomas Fanshaw Middleton, D.D., first bishop in India; Charles Lamb, Samuel Taylor Coleridge, Joshua Barnes, James Henry Leigh Hunt and William Camden.

RUSKIN LETTERS.

SOME of Mr. Ruskin's letters, showing the homeliness of the great Professor's life, will be read with interest. They are supplied to the *Leeds Mercury* by Mr. John Bell, registrar of births and deaths at Coniston, who was a great friend of Mr. Ruskin's, and who for some time has held power-of-attorney from Mr. Ruskin in matters of business. Mr. Ruskin interested himself in 1884 with the case of a family named Watkinson, who had sustained a series of losses in farming in the neighbourhood of Brantwood. Mr. Ruskin started a subscription in their behalf, and himself wrote the following in the subscription-book:—

"My good neighbours, the Watkinsons, of Lawson Park, have been put to great distress since they came there on April 7 last year, with good-will to work all of them, husband and wife, elder son and little daughter, but little more than their own hands and good-will to trust to, and they have had a run of ill-luck since, besides the sorrow of losing their younger boy, a child of six, by the blow of a scythe On July 17 they lost a cow, for which they had given 20*l.*; then a calf, which they had reared; then the first of the great storms blew their grange roof off, and scattered irrevocably or destroyed all their hay, forty-three carts, all but a cart full. I partly reimbursed them for their loss myself, enabling them to buy another cow and the horse they now have, but this horse is now taken ill, just when they needed him (the shoulder and limb affected by abscess); and I believe myself quite justified by the worth and the good courage of the family in asking now for some little further help for them so as to enable them to get another horse and hire a farm labourer for the work which the son is scarce strong enough for —JOHN RUSKIN, Brantwood, March 26, 1884."

Mr Ruskin started the subscription at 5*l.*, and it ultimately totalled up to 34*l.* 5*s* 8*d*, the following being the final entry in the subscription-book, now in the hands of Mr. John Bell, and in Mr. Ruskin's own handwriting :—

"8th April, received total to here 35*l.* 5*s.* 8*d*, which I think quite as much as is needed in the case. I am sure it is far more than was looked for, and my most true thanks are rendered, with Mrs Watkinson's rejoicing ones, to the subscribers.—John Ruskin, Brantwood, 8th April, as aforesaid"

Some time ago Mr. Ruskin induced Miss Wakefield to promise to sing at Coniston in aid of the charities, and to stay with him as his guest, but she did not turn up, and afterwards explained the cause. He felt very keenly the breaking of her engagement, and wrote the following, which was read to the audience at the concert :—

"Brantwood, Coniston, Lancashire.—Mr. Ruskin cannot too strongly express to the audience the regret he has felt at the breaking of her engagement by Miss Wakefield on the present occasion. He does not, however, feel called upon to express his sense of the slight put upon Mrs. Severn and himself, and he is sure that the feelings and expectations of others, for which he can offer no defence, has not been in reality so great as it appears, that the mischance has been mainly owing to thoughtlessness and to the certainty felt by the young lady that she can make us all forget their quarrel with her at the first notes of her voice on some future occasion. Whatever our immediate disappointment, it must be remembered that the presence of an executant whose merits, real or supposed, discourage other performers, may not be always a benefit to a concert, and Mr. Ruskin may perhaps be permitted to state that his own feeling in such matters is that a song rendered with simplicity of feeling by a soft and clear voice of average power possesses all the elements of the most delightful music, and that the intricacies and splendours of modern compositions for voices of extraordinary power too frequently efface pleasure in astonishment."

Mr. Ruskin was of a very homely turn, and took great interest in the social life of Coniston and in the poor of the place. He was ever happiest when promoting the happiness of others. In 1883 he lectured at Coniston on one of the incidents of 1848, for the benefit of the widows and orphans of the deserving poor. The lecture realised 20*l.* 12*s*, but at the request of the Professor was not reported His object was to direct attention to the lofty and patriotic character of Lieutenant, afterwards Sir, Henry Edwards, whom Mr. Ruskin stated afterwards he had known as a boy and by whose precepts he had profited. In January 1884 he gave a splendid school treat to the scholars attending the Coniston day schools.

Mr. Ruskin was fond of Coniston. Some time ago Mr. Bell went to London, and on returning the Professor asked him how he liked the sights he had seen, and Mr. Bell's reply was of all the sights he had seen he liked Coniston best. "Ah," the Professor said, "you may travel the world over and never see any place so beautiful as Coniston is" Here are two letters showing the homeliness of Mr. Ruskin :—

"Brantwood, Coniston, Lancashire : January 11, 1884.

"Dear John (Bell),—What weather ! I can't get over even to tea, let alone my walk with Libbie (Miss Bell), but much love to her and Polly, and please tell them I hope for their kindness in helping me to see after the children's tea on Tuesday. I can't get a magic lantern from anywhere, so do you think that two or three of the Coniston band could be got who could give the children a couple of hours' dance after tea? If they only played games to the music it would be ten times merrier than without. Please do all you can for me in this, and in truest regards to your father, believe me, affectionately yours, John Ruskin."

"Brantwood, Coniston, Lancashire : May 7.

"Dear John,—Tell Polly to put in hand a blue frock for Jane Annie, without one pinned-on or double bit in it."

One of the most noteworthy letters the late Mr. Ruskin received was from America on his eightieth birthday. It was addressed to the "Greatest Man on Earth, Coniston." This letter gave the Professor the keenest possible delight.

PARIS EXHIBITION PRIZE.

THE following are the conditions for the competition for the Paris Exhibition Prize, 1900, offered by Mr. Arthur Cates to members of the Architectural Association:—

Candidates to be members of the Architectural Association without limit as to age.

To have passed the R I. B A. final examination, or

To have passed the intermediate examination, and also to submit drawings equivalent to the testimonies of study required to be sent in for the final examination.

To also submit practical working drawings and some brief descriptive reports of a technical character, satisfactory evidence of ability in architectural and constructive design, with good accurate draughtsmanship, being essential

Applications, with drawings, &c., to be sent in to the hon. secretaries at 56 Great Marlborough Street not later than April 30, 1900.

The examination to determine the award of the prize to be partly written and partly oral, and conducted by gentlemen appointed by the committee. The subjects will be:—

(*a*) French, as written and spoken.

(*b*) Technical French, as used in relation to architecture and building.

(*c*) The metrical system and its application to architecture, building plans, surveys and accounts.

(*d*) General knowledge of architecture if thought necessary by the examiners.

The examiners will have full power to award the prize or not, as they may think fit.

The successful candidate will be required to spend not less than four weeks in Paris to study, examine and report on the architecture and buildings of the Exhibition, and must on or before December 22, 1900, deliver to the hon. secs. an illustrated report descriptive of the same.

The successful student will receive 20*l*, to be paid in two instalments, the first on his leaving England and the second on his submitting the illustrated report to the satisfaction of the committee of the Architectural Association. He may be required to read a paper before the Architectural Association on the subject of his study.

The illustrated report, or a complete copy, to be presented to the Architectural Association, who shall have the right to publish the whole or any part in "Architectural Association Notes."

The John Hopkinson wing of the engineering laboratory in Cambridge, which is a memorial of the electrical engineer, will be opened on Friday, February 2 Lord Kelvin will deliver an inaugural address and the Master of Trinity will unveil a portrait of the late Dr. Hopkinson presented to the laboratory by subscribers.

THE DOME AS THE BASIS OF AN ARCHITECTURAL SYSTEM.*

(Concluded from last week.)

THE Duomo at Ferrara is an old building modernised to the design of F. Mazzarelli in 1637 and carried on from 1711-28. It displays several features which illustrate the study upon which we are engaged. At once more complex and interesting than the other examples, built on an oblong site, lit almost exclusively from a clerestory, this building affords an instance of what may be done with a town church on an ordinary plot.

There are three internal transepts, each marked by a dome, the intervening blocks being treated on the Gothic plan of oblong bays in the nave and squares in the aisles. There is, however, a minor difference in the setting out, for a kind of lateral perspective has been obtained in the plan of the piers, such as may be seen in Bramante's architectural background to Raphael's fresco of the "School of Athens," † but which has not, so far as the author is aware, been realised elsewhere. It is an effect especially suitable in a Renaissance church, on account of the stability that it suggests, preventing too many cross views, as well as that slender pillar effect which distinguishes a Gothic interior.

That the last point is a danger to be avoided in Renaissance churches may be seen in the earliest examples, as St. Agostino at Rome, the cathedral at Pienza, &c.

In such early instances the Gothic plan is merely clothed in Classic detail, as in the piers, which become four pilasters back to back, of inordinate proportion, in spite of the use of pedestals, owing to the attempt to reach up to the cross-vaulting at the usual level of a Mediæval interior. Such an effort is not aided by the small rise of a round arch, as compared with that of the pointed form.

Returning to the consideration of the plan before us, an explanation may be due to the reader who is at home in vaulting problems, and may be wondering how those oblong nave bays are ceiled. The groins are not ellipses, nor do they twist, but the covering is circular barrel vaulting with intersections for the windows, the wall arches being run on to the main vault at the crown level, or nearly so; the half groins, however, are not in one plane as the halves of a diagonal rib would be, the junction being concealed by the decoration. These wall arches, moreover, are sprung high up off the vault itself.

Undoubtedly this is rather a trick, but when one remembers the difficulties of roofing such oblongs with round arch vaulting, one can only be amused at the ingenuity displayed. The aisles are domed with surface vaults, adding much to the sense of apparent stability in this church. The lighting of the building is remarkable, proceeding almost entirely from the intervening blocks on their three sides, through a clerestory over the aisle, the domes being windowless, with a very good effect as regards the light and shade of the interior.

Unlike many examples, this of Ferrara has the advantage of conforming to the doctrinaire rule that the dome marks a resting-place, for here each distinguishes a transept and is also a point from which seven altars are visible at once, being an effect sometimes arrived at in modern Roman Catholic churches, as in the crypt of the Sacré Cœur at Montmartre. The lines of sight laid down on the plan show that this result is obtained by an attention to cross views not common in Renaissance interiors.

The question, however, of the impolicy of using domes at other than points of rest is really one of vista, it being assumed to be unpleasing to look down a series of domes; that is to say, it is the structural question of the dome section, for while domes of the pendentive and drum types are apt, by rising high above the enclosing arches, to make awkward gaps in the line of the covering, saucer domes and surface vaults are not so open to objection, being lower in section and more in harmony with the arches that contain them.

Undoubtedly, however, the question of vista is of the greatest importance. For instance, in this very example, on looking down the length of the nave, the three domes, or rather the two beyond us, occurring after the cross vaulting between, tend to leave the end arches of each block without apparent support. This effect occurs also in Gothic cathedrals whose crossing carries a lantern. In the latter case a remedy has sometimes been found in vaulting the crossing level with choir and nave, which, of course, at once extinguishes the problem. In this instance the use of saucer domes or surface vaults for these transept domes would have removed the effect of the gaps to a large degree.

Considerations of vista are also a reason for the level ridges of an English Gothic vault, in that the effect of length is best produced by providing a line for the eye to travel along, and that of the vault crown is one of those most naturally followed. In wooden-roofed interiors ridge rib and purlins effect the same object. Ribs are not at first sight a promising idea in connection with domes, though there are cases where the use of strongly-marked ribs, as in St. Maria di Gradi, Viterbo (1740, Salvio Niccolo), carried up from the angles of an irregular octagon, or other form on which the dome rests, still leaves something of the special dome effect, such as might not be entirely lost if a system of wide bands down the centre were used, leaving circles to occupy the spaces at the sides.* The introduction, however, of all ribs in domes, while producing often a ceiling of powerful effect, seems to destroy those special qualities of the sphere as a covering, which count for so much in the attractiveness of the dome as an architectural feature.

From the point of view of a domical church there is a certain imperfection in combining, as in this example, domes with cross vaults, one being a surface and the other a line treatment. St. Paul's presents a clever compromise in this respect, as in the nave the oblong bays are covered by saucer domes which rest on the cross arches at the ends, while on the sides they are supported by the groins of an interpenetrated cylinder. The defect, however, follows that the sides appear insufficiently supported by the thin line of the groin, as compared with the ends carried on the strong cross arches. The wreath band at the base of the saucer dome, while exaggerating the point, seems required to emphasise the cupola form. The two cross-vaulted bays of the intervening blocks between the transepts could very well be treated as one composition, either domed with a saucer or covered with a barrel vault. Of this there is an instance—the Badia di St. Fisre, at Arezzo (1550 (?) Vasari)—in which the treatment below the vault is as a Palladian bay of two free columns and a central arched opening carrying a small oval dome across the aisle. Emphasis is thus given to a side altar. The tendency to setting out in square bays in domical work is directly manifested in the greater harmony of the Badia scheme.

We shall conclude this part of our essay, dealing with Type I., the Domical Church, by a reference to St. Fidele, at Milan (1569-79, Pellegrino Pellegrini). This is an instance of the application of the surface vault and a single span nave, bringing this example into comparison with those of St. Andrea and the Carmine with which we started. It illustrates also how in the Later Renaissance a treatment of columns as orders on stricter Roman lines was attempted. In this case the columns of the main order are used as vaulting shafts, as in the thermæ, though with a closer adherence to rule than probably distinguished the works of the Romans themselves. We may consider this example as the model of the Madeleine at Paris, though the covering in that case is by pendentives and top-lit domes. Aisles in this type can be obtained by bringing out the order free from the side wall and covering the passage by a barrel vault from column to column, as in St. Quirico, Siena. A good abutment is thus obtained where the side walls are thin.

Second Type.—The Five-dome Plan.

We now proceed to take up our second type, differing from that which we have been considering in this important respect, that the Five-dome plan constitutes an isolated and self-contained structure, and retains rather more of the original dome effect, possessing as it does a central and dominating cupola-covered area.

It is, perhaps, the most satisfactory development of the simple domed apartment of the type of the Pantheon, as it is free from the complications that arise with attempts upon an octagonal basis.

We have already alluded to the relation between the examples of our second type and the Byzantine model, as in St. Mark's, Venice, and also to the process of opening out the square supporting masses as minor domed compartments of the plan.

The barrel vaults that bind these squares together agree well in idea with the main dome which they carry, being, in fact, only arches of an ampler width, insuring a greater sense of stability.

The system as a whole tends to lower the interior, as the pier compartments, as hollowed out, must not be too high internally, while the existence of much space above would call for an upper storey, also domed, such as, indeed, might well exist in relation to a system of internal galleries of a structural character. In St. Salvatore the space above is disposed of as a panelled attic, the lines of which range round the whole interior.

In applying the Classic features to this type of plan the legs of the piers became naturally the main pilasters, enclosing a minor order carrying the small arches of the internal dome, this treatment agreeing well with the ideas of Bramante and Palladio.

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* A paper by Mr. Arthur Bolton, read at the last meeting of the Architectural Association.

† Usually considered to represent Bramante's ideas for a St. Peter's, with a nave on the basis of a Latin cross plan.

* French Gothic vaults, where treated with English ridge ribs, produce a somewhat wavy effect owing to the rise and fall of the ridge, although this is not so noticeable as might be expected.

In certain examples these minor domes have drums, and show outside as turrets like in S. M. Campagna, Piacenza, and St. Giustina, Padua; but in St. Salvatore, Venice, the drum is omitted, the dome springing from a string just above the heads of the small arches, which are united by pendentives.

By the use of the surface vault, as already explained, a still further reduction of height can be effected. The same course can be adopted with the central dome as in St. Rosa, by which means the whole interior may be brought to a unity and spaciousness of effect such as the first efforts could not attain, owing to their excessive proportions.

There are cases, of course, where the Five-dome plan might be used for the opposite quality should a frankly tower-like result be desired, for if sufficient altitude were given to the minor domes the central feature could be carried to an otherwise unattainable elevation, producing a strong impression of height, but at the expense of what are generally considered to be the special characteristics of the dome.

The church at Viterbo, dedicated to SS. Francesco e Paolo, is just outside the walls of the town. It was built for one of the Farnesi, who were great patrons of the architect Vignola; he was, in fact, building Caprarola for them between 1555-59 in the same neighbourhood, so that the attribution of this work also to him is not unreasonable. The exterior is unfinished and the interior rather rough, though not wanting in dignity.

This example is interesting in our inquiry because in the same town is St. Rosa, built in 1848, of almost the same dimensions but of an entirely different internal effect. The two are drawn side by side to the same scale.

The quality of space tends to disappear when much height is given, and not only are the minor domes of St. Rosa proportionately less in height, but the surface vault principle being applied to the main dome, a great reduction in the total height is obtained on a similar plan of nearly equal dimensions. The greater effect of spaciousness obtained is very much more than is accounted for by the actual difference in size. Some part of this is due to the greater attention bestowed upon the minor domes, and to the attempt that has been made to bring them into closer relation with the central area. The modifications introduced into the plans of the main piers are in this direction, and also in that of providing a better seating for the start of the domes. It will be observed that the minor domes might have been treated as surface vaults, reducing their height, with a probable gain in spaciousness of effect to the whole interior.

The aim in a church of this type must be to get good cross views, and a perfect relation between the central and minor domes, in which respect the relative bulk of the four great piers is a matter of primary importance.

The church of St. Maria dell' Umiltà at Pistoia (about 1509, Ventura Vitoni), shows that a tempting solution of this side of the problem was not untried. It seems easy to replace the piers by four single columns, giving a practically unencumbered square interior, while carrying on them the vaults and domes above, as we find done in Byzantine examples, or in La Martorana at Palermo, in which last Pointed arches are used. Renaissance examples also are to be found in which single columns are used, and one in which a group of four half-columns fused together forms the pier.

The drawback to this single-column plan, however, lies in its excessive simplification, by which it loses interest; a single glance reveals the whole interior, and also seems to stamp the upper part as somewhat of a fraud, so much architectural scenery above with so little apparent support below. Whereas the pier system, at any rate, has more reserve and mystery, while the unity and relation of parts can be equally well preserved, and, above all, it has that air of stability which constitutes so large an element in genuine architectural effect.

When the S. M. dell' Umiltà type is extended on all sides, still using columns, the plan of St. Stephen's, Walbrook, is approached, as the formation of a central octagon by the omission of the four middle columns becomes necessary to secure the relative increase of importance to the dome. We have, in fact, a hall of columns to which a cupola is applied in order to secure a free central area. The type is essentially a compromise, owing to the tendency in the spectator's mind to restore the omitted columns, an impression probably arising in part from the difference of scale between the small bays of the colonnade and the wide central area.

It is interesting to remember that Palladio's favourite form of vestibule is a hall about 30 feet square, having four columns about 5 feet out from the angles. In his designs the central area thus formed is usually cross-vaulted, leaving flat ceilings for the angle squares, but with a domical treatment the Five-dome plan is obtained, and would be equally palatial in effect. This is recorded in passing as an illustration of the domestic application of the type.

El Sagrario, Granada, a Spanish example (1705-59), approximates in scale of plan to St. Francesco and St. Rosa, but exhibits a wide variation of internal section. In this instance height has been striven for, and attained by making the interior practically in two storeys, the minor domes being lifted above the main order.

The chief peculiarity, however, is that the minor cupolas are placed at the cardinal points of the main dome, the angles being cross vaulted.

The plan obtains considerable extension by a series of deep recesses in the external walls, and by adding to this a relative smallness of features, the impression of a large church is produced. In comparison with St. Rosa, it is interesting to observe that the central squares of both are of the same dimensions, all the increase of size in the Spanish example being given to the surrounding areas. The surface vault, however, of St. Rosa conveys an idea of a dome of much greater diameter than that in El Sagrario, where the greater height also detracts from the importance of the central feature. If the system of the Spanish example were carried to its logical development, the effect of a square hall would result, the lofty piers becoming incidents in the interior, while the minor domes, acquiring the importance of the central feature, would seem to be parts of one comprehensive domical covering.

The arches in three tiers in the side sections, rising from the wall recesses to those which carry the vaulting of the angles, and on up to the arches of the minor domes, constitute the best feature of the scheme. The many breaks in the detail are characteristic of the Spanish use of the orders.

Our next example, the church of Madonna della Steccata at Parma, built by Giov. Franc. Zaccagni from 1521-39, is like the Invalides at Paris and churches of that type, in that the angles of the plan are not brought in as parts of the general effect. This is especially the case in this instance, as the only openings are small doorways, thus reducing the plan internally to a simple Greek cross, like the church of St. Maria Carceri at Prato, a type which it is not our purpose to discuss.

An interesting point about this example is the greater attention bestowed upon the exterior, and the fact that the cupola drum is surrounded by an arcade in place of the more usual colonnade, while the curve of the interior and exterior dome are almost the same.

In the church of S. M. della Campagna at Piacenza (1522-28), attributed somewhat doubtfully to Bramante, the angle domes are carried up as turrets outside, with the usual loss of internal effect. The exterior is an interesting piece of brickwork, rigidly following the lines of the interior design. The Five-dome plan is here extended by barrel-vaulted bays on all sides, giving length and a transept effect; while the diamond, on which these plans naturally shape themselves, falls within the walls of the church. Except for a gain in cross views and accommodation, the architectural effect is not much improved, though, of course, greater height can be indulged in with success.

There is a diagonal line to be applied in section as well as in plan when determining the height of these interiors. The most suitable point to consider is that at which the circle of the dome lantern, or the apex of the cupola, is to be cut off by the cornice of the springing, or by the crown point of the enclosing arches. The same consideration applies also to the minor cupolas. The next important station point is that in the extreme angles of the plan, from which the relative bulk of the great piers can best be appreciated. The plan of these piers is, therefore, a point of great interest, for, obviously, on that depends the extent of the cross view of the interior as a whole, as well as the appearance of adequate support for the superstructure.

The first improvement on the simple early form of a square-recessed pier is to cant the angles towards the smaller domes, as is done slightly in St. Francesco, and rather more in St. Rosa. The piers of S. M. della Ghiara at Reggio (1597, Alesso Balbi) have very large cants to these minor features. When the domes are surface vaults, the cant is like the start of the cupola, and where a pendentive is used it acquires greater importance beginning in that way than when it commences from nothing in the internal angle of the pier.

A large cant to the main dome characterises the Spanish example, which also shows the doubling of the arch bands of the minor domes as occurs in late instances.

A form of pier of a different character is obtained from the column type when minor arches are introduced under the entablature, so that the order becomes one quarter engaged. There was an example by Sansovino, St. Geminiano, Venice, 1556 (unfortunately destroyed) of about the same scale of plan. The column on the angle of the minor squares is an effective feature, though with any close adherence to the order system certain detail difficulties would have to be faced, which probably accounts for the rarity of this type. The great development of pier in St. Alessandro, Milan, obscuring the angle domes of the plan, exhibits a tendency backwards to the plan of St. Peter's at Rome as it now is with its isolated angles and absence of cross views.

We have not in this essay to deal with questions of architectural detail, but we may say, in passing, that these piers belong to that late phase of the Renaissance already alluded to, when an attempt was made in using the orders to give them a separate character. This idea was expressed in various ways, but the plan of inserting a complete column, and forming a recess behind it, was a favourite expedient.

The complications of the order system are possibly more felt in the second type than in the first, as the same need for the vertical lines of pilaster and column is not experienced in the Five-dome plan as in the domical church.

St. Alessandro, at Milan (1589-1602, L. Binaghi), may be described as belonging in part to both of the selected types. It exhibits a skilful extension of the Five-dome plan eastwards instead of westwards, as is the more common. By this means on entering we realise at once the full effect of the dome, unweakened by any preliminary extent of nave, while the second impression of length beyond is pleasing and the manner is good, as the second dome repeats the first but in saucer form, wisely attempting no second effect of height, and the vista then closes in with the natural termination of an apse.

Without entering on a third division of the subject we will glance for a moment at the later stages of the domical architecture of the Renaissance in Italy. We have alluded above to a late form (St. Giovanni, Pesaro) in which irregular octagons are domed with strong ribs from the angles, as somewhat converting the dome into a vault in effect, though still leaving something of its special character. There is considerable boldness of effect in some of the later examples of this type, as S.M. di Gradi, Viterbo (1740, Salvio Niccolo).

S.M. Vita, Bologna (1687-1787, G. Borganzoni), is another instance, but with the plan enclosing an oval shape, such as in the last period became a marked feature.

Such oval churches as SS. Pietro e Paolo, Ceraino (1670-79), and St. Maria Prato, Gubbio, are interesting in the present day, because experiments have been tried quite recently in oval interiors, and the geometrical and structural aspects of the problem can be observed in these old examples, bad and unsuitable as their details may appear. A special study might well be given to this type on that account.

Of the hexagon variety, St. Giovanni Evangelista, Orvieto, is an example. While the curious late attempts to, as it were, square up within an oval circumference a central circle or square, with annexes reaching towards the boundaries of the enclosing curve, exemplifies the church of the Madonna di St. Luca, at Bologna (1731, C. Dotti).

The Madonna, at Macerata, by a pupil of Bramante, is an earlier form, in which the central square and annexes are comprised in an octagon.

St. Jean, at Burgos, is more closely connected with the Five-dome plan, though the octagonal boundary has reduced the minor domes to triangular spaces of vaulting. The interior, less octagonal in effect than appears on paper, is spacious and seen at a glance.

The piers are tall and slender, almost to excess, while the dome is somewhat small and tends to lowness of effect, owing to the proportionate increase of the surrounding areas. The use of the Pointed arch to solve the difficulties of the triangular vaulting is a singular fact.

In conclusion, we have endeavoured to treat the subject of domical architecture as a question of structure in an artistic sense, and of proportion both of plan and section, independent of what is called style.

While details are decaying form in structure may still be progressing, and the interest of the later examples is often due to an advance in the general handling of the problem. This progress may be lost sight of if we allow ourselves to be blinded by prejudice induced by the detail employed, more particularly in late examples of the Renaissance.

An instance of the independence of detail of these problems may be seen in the new church of the Sacré Cœur at Montmartre, which, though Romanesque in detail, belongs to our second type. Amongst other points this example shows how an increased height can be obtained in the minor domes of the Five-dome plan, by the simple expedient of forming openings with Welsh groins in the barrel vaults enclosing the dome, so that the whole of the space within the hollow piers is opened up. By this means the effect of an otherwise excessive height in the minor domes is obviated, and their area is included in that of the main structure. If, however, this process is carried too far the square hall effect is produced.

Somewhat analogous is the treatment of the angles of support to the minor cupola vaults of the Panthéon, Paris, though here carried out with an excessive lightness of pier and in a somewhat disconnected manner, due mainly to the entablature of the order below

The Roman Catholic Cathedral in progress at Westminster is an instance of the use of domes on a large scale, the nave consisting of three domed bays of 60 feet diameter. The side arches are here divided into two bays, as in St. Antonio at Padua, while structural galleries are obtained by arches on columns, as in St. Mark's.

Many other developments are possible, and will occur in future examples of domical architecture.

An irresistible tendency to development will be displayed in architecture when a start has been made on the lines of a possible system. The first experiments are often reckoned as failures, but the future is more indulgent than the present, and a consideration of their importance as links oftentimes gives a credit to buildings that might be denied to them solely on their artistic merit.

Mr. R. Phené Spiers proposed a vote of thanks, which was seconded by Mr. H. H. Statham, and supported by the President and Messrs. C. H. Brodie and W. H. Seth-Smith.

Correspondence

Minley Manor, Fleet, Hants.

SIR,—I have just seen the illustrations of Minley Manor in your issues of the 5th and 12th inst., in which this house is ascribed to the late George Devey.

This is an error. It was designed and erected by the late Henry Clutton many years ago, and about thirty years since he also made additions to it. I was at that time in his office, and took part in preparing the drawings, so I know.

The small building with lead roof, shown to the right hand in your illustration of the 12th, I do not remember, and seems to be by another hand, as does also the fountain (or whatever it is) in the centre of the courtyard (*vide* illustration of the 5th), and perhaps also the square panel enclosing clock, but all the rest is Mr. Clutton's work to my knowledge.

Mr. A. J. Pilkington, of Lincoln's Inn Fields, who succeeded to Mr. Clutton's practice, could corroborate this, and the drawings are probably in his possession, and unless I am much mistaken Mr. James Bentley could tell you more about the original contract than I, as it was carried out a little while before my acquaintance with the late Henry Clutton began.

Architect, client, contractor and clerk of the works are alike dead, and this must be my apology for troubling you with this correction. If Mr. George Devey were still with us it would not be necessary, as I am quite sure he would be the first man to disclaim the attribution. He may, or may not, have been responsible for the items I have noted above—that I do not know.—Faithfully yours, ALFRED A. BONELLA.

St. Margaret's, Twickenham, S.W.
January 24, 1900.

GENERAL.

The Society of Oil Painters have elected the following gentlemen as members:—Mr. G. Spencer Watson, Mr. W. Lee Hankey, R.I., Mr. R. G. Hutchison, Mr. G. Sheridan Knowles, R.I., Mr. F. Stuart Richardson, R.I., and Mr. H. Hughes-Stanton.

The French Institute have unanimously agreed to accept the gift of M. Osiris, which enables a triennial prize of 4,000*l.* to be offered to the author of the work which is considered most useful to humanity.

M. Carré, architect to the Ministry of Foreign Affairs of France, is entrusted with the adaptation of the mansion in the Avenue Bois du Boulogne which is to be used for royal visitors to the International Exposition.

The Committee of the French Salon that will have charge of architecture in the exhibitions of 1900, 1901 and 1902 will consist of MM. Pascal, Loviot, Normand, Vaudremer, Courtois-Suffit, Scellier de Gisors, Adrien Chancel, Daumet, Bœswilwald and Formigé.

The Queen Eleanor Cross at Hardingstone, near Northampton, will henceforth be in charge of the Northamptonshire County Council, as Mr. James Bouverie, the lord of the manor, has conveyed all private rights to that body. It is one of the three remaining erected to perpetuate the memory of the wife of Edward I., and is the most interesting Mediæval monument in Northamptonshire. The County Council will take steps to secure the monument from future injury.

Mr. Cyril Davenport will on Tuesday next read a paper before the Applied Art Section of the Society of Arts on "Niello Work."

The Exhibition of Works of Art presented by artists in aid of the war fund was opened in the Guildhall Art Gallery on Monday. In the collection are several interesting works.

The London County Council on Tuesday voted 45,000*l.* to purchase 38 acres of land at Tooting as sites for dwellings for the working classes. It is expected that the outlay will cost half a million.

The Seventh Meeting of the Discussion Section of the Architectural Association for this session will be held on Friday, February 2, at 56 Great Marlborough Street, W., at 7 P.M., when Mr. G. M. Nicholson, P.A.S.I., will read a paper entitled "Opening up Land for Building Purposes."

OF THE
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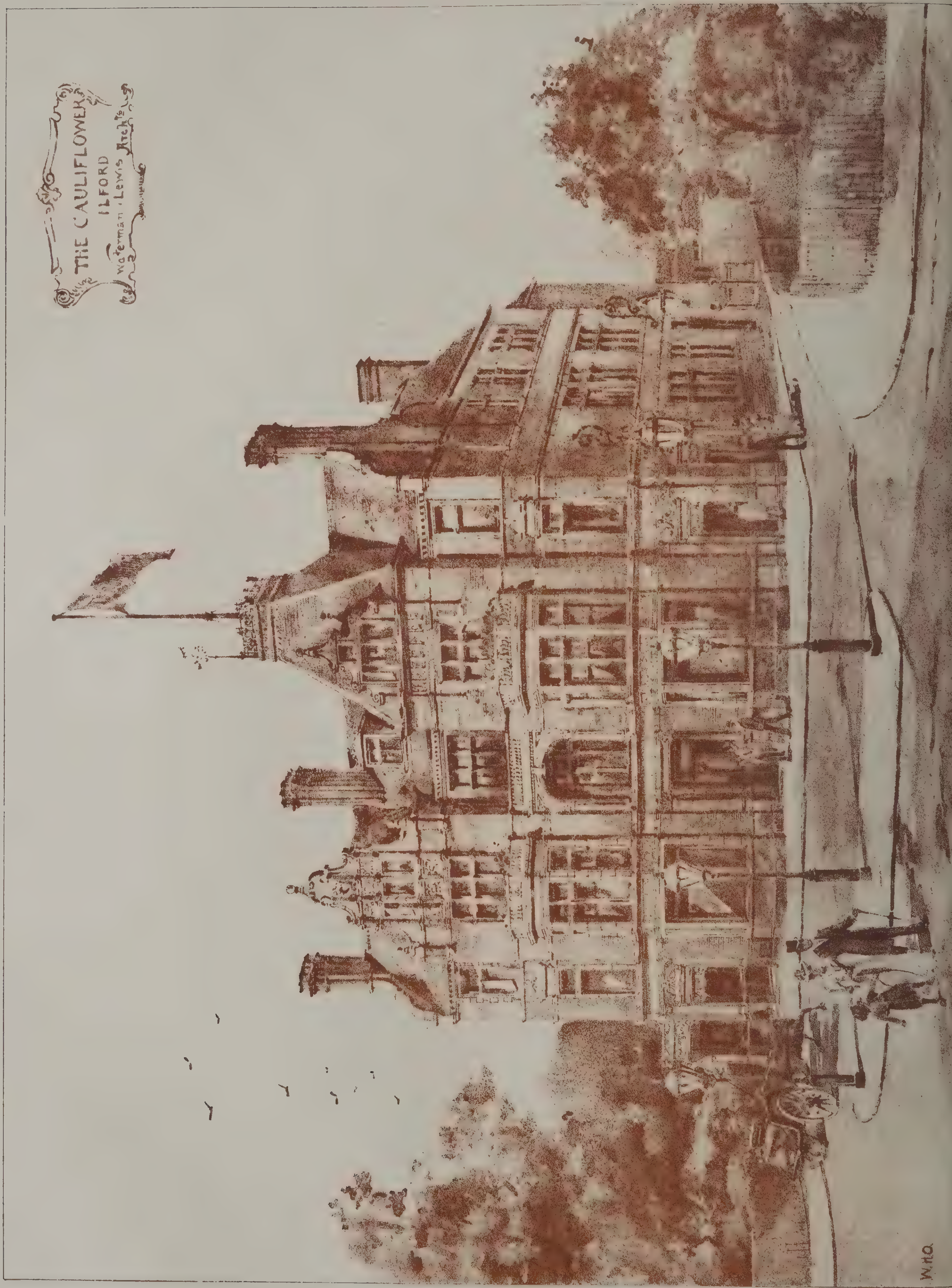
The Architect, Jan 26th 1900.



THE CAULIFLOWER

ILFORD

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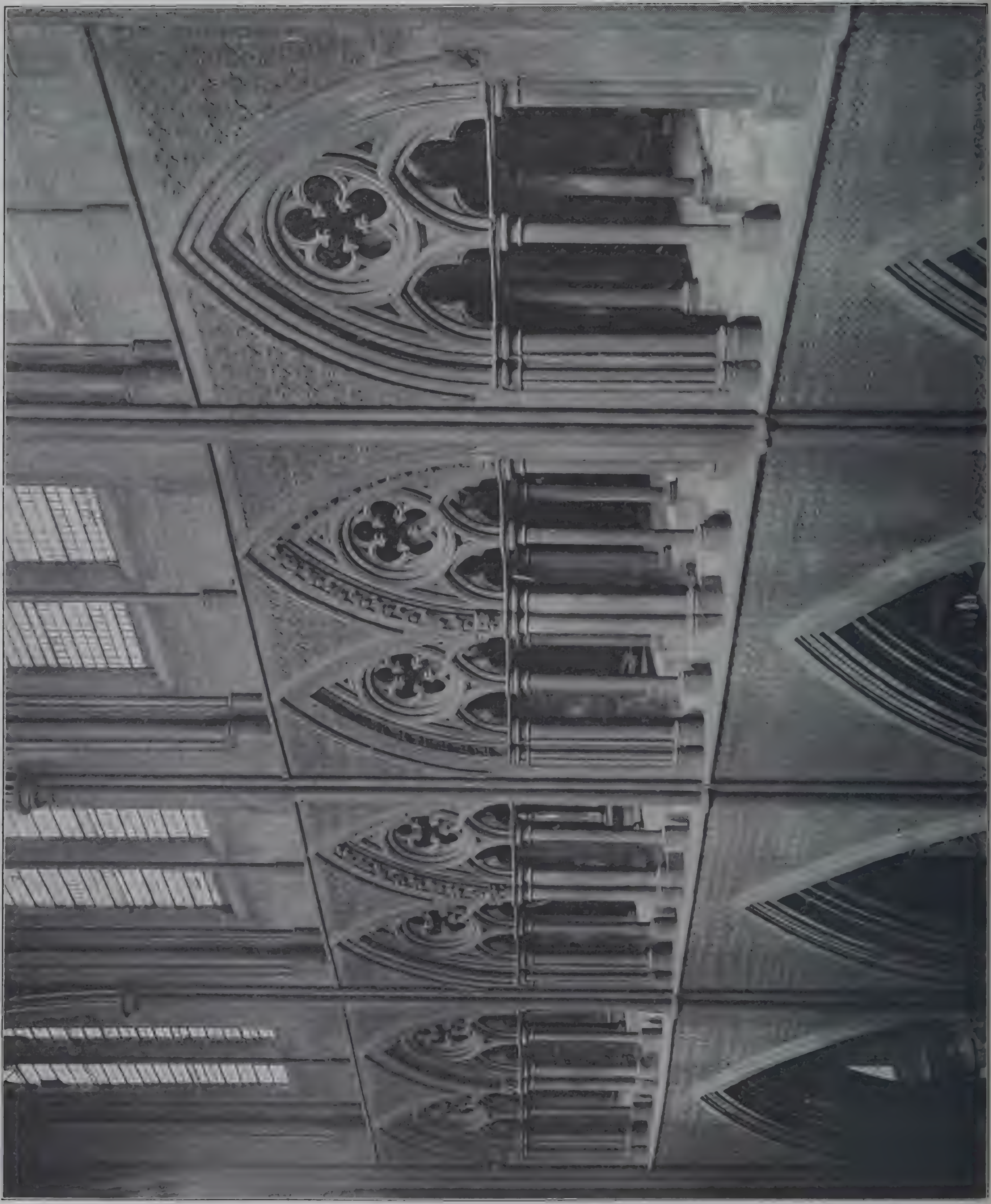

WESTMINSTER ABBEY. No. 9.

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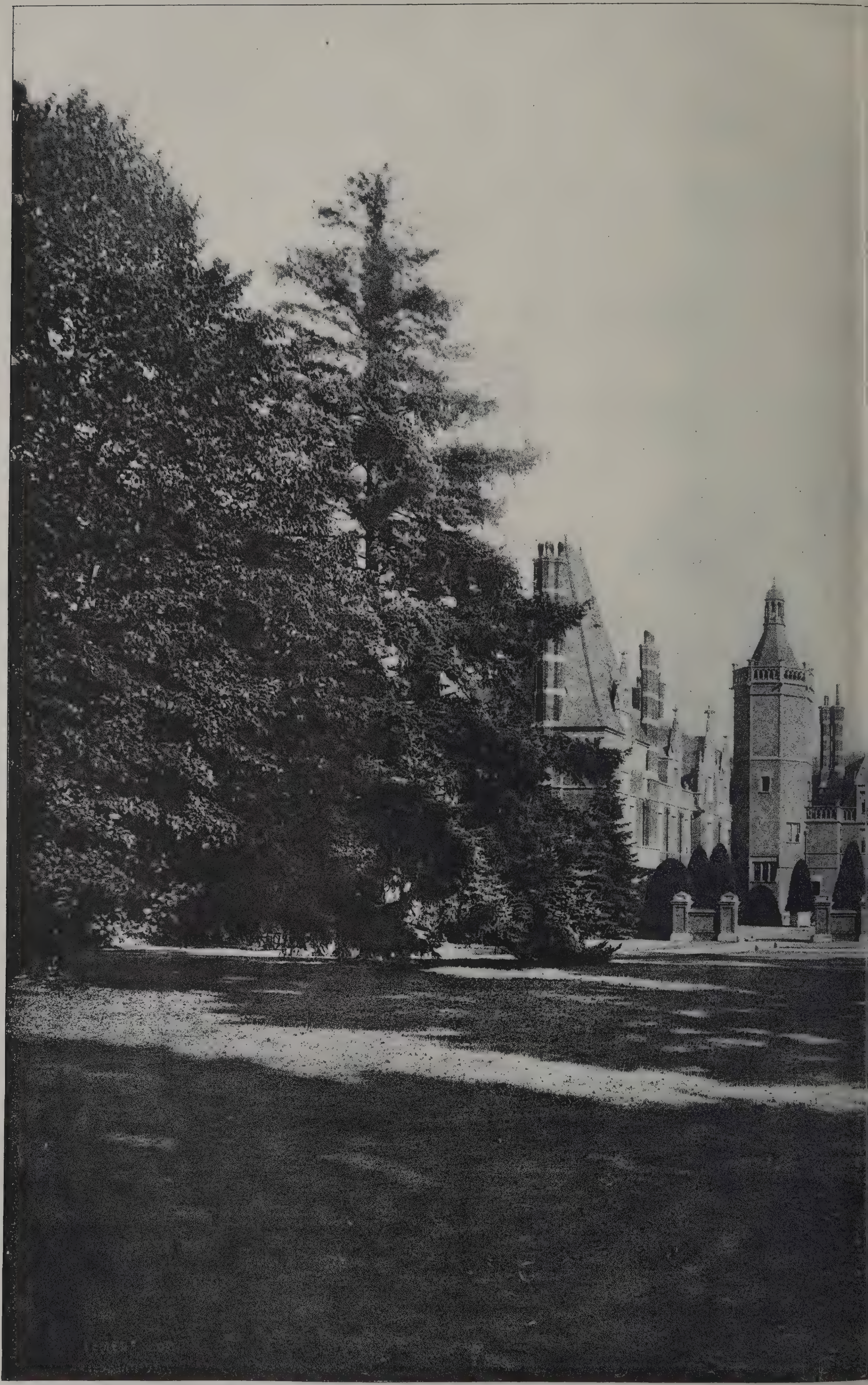
UNIVERSITY of ILLINOIS



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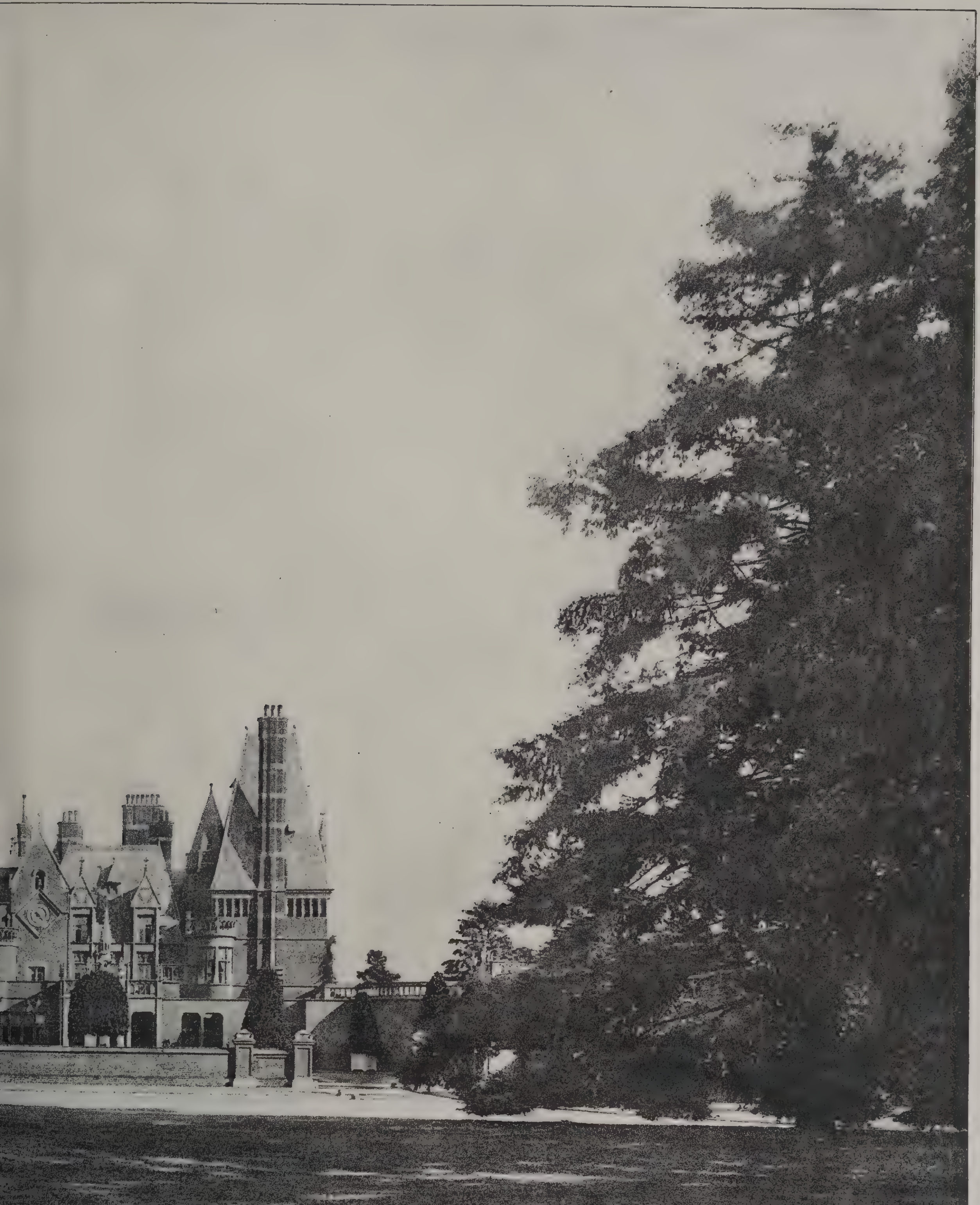
“MINLEY MANO

The late GEO.



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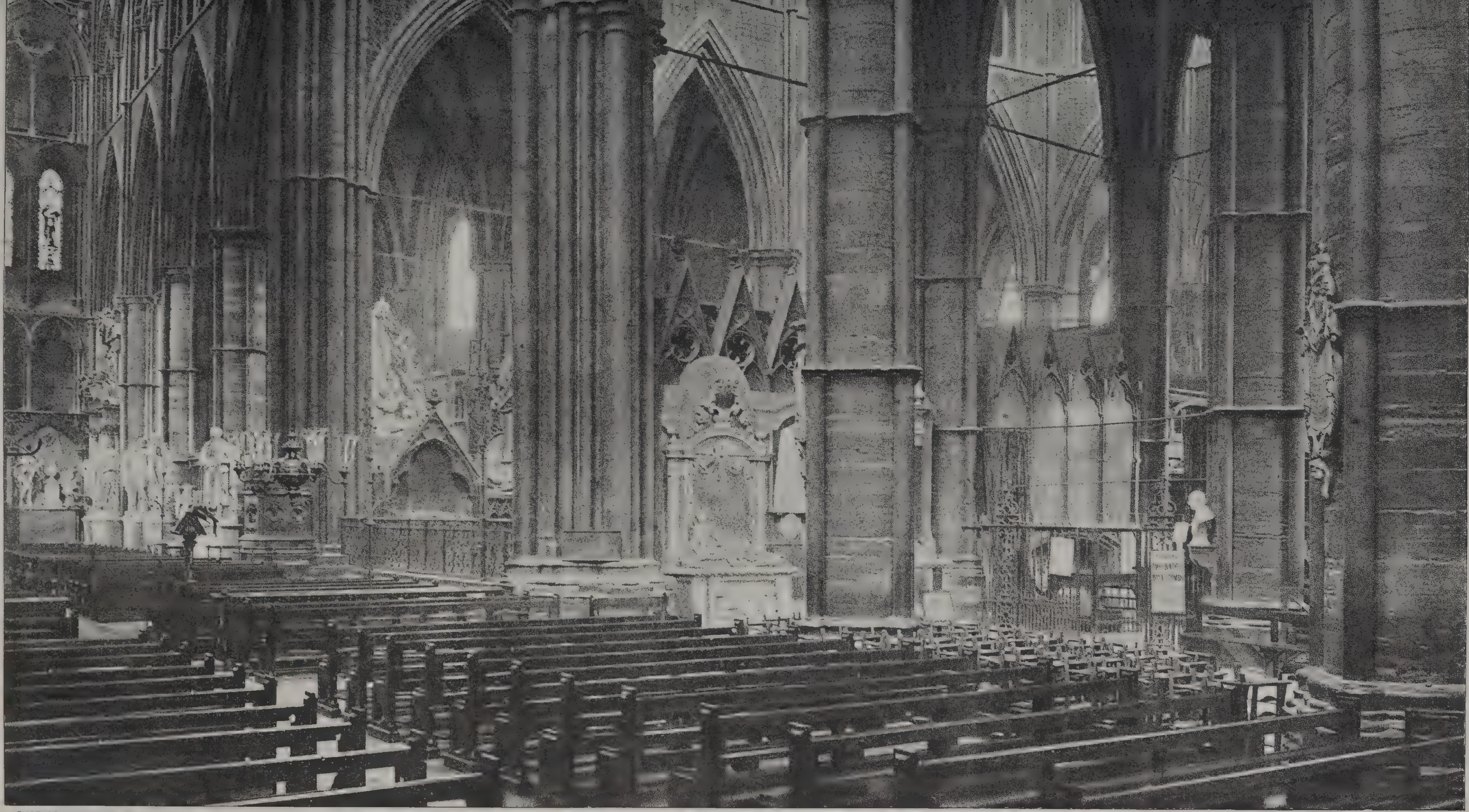
The Architect, Jan 26th 1900.



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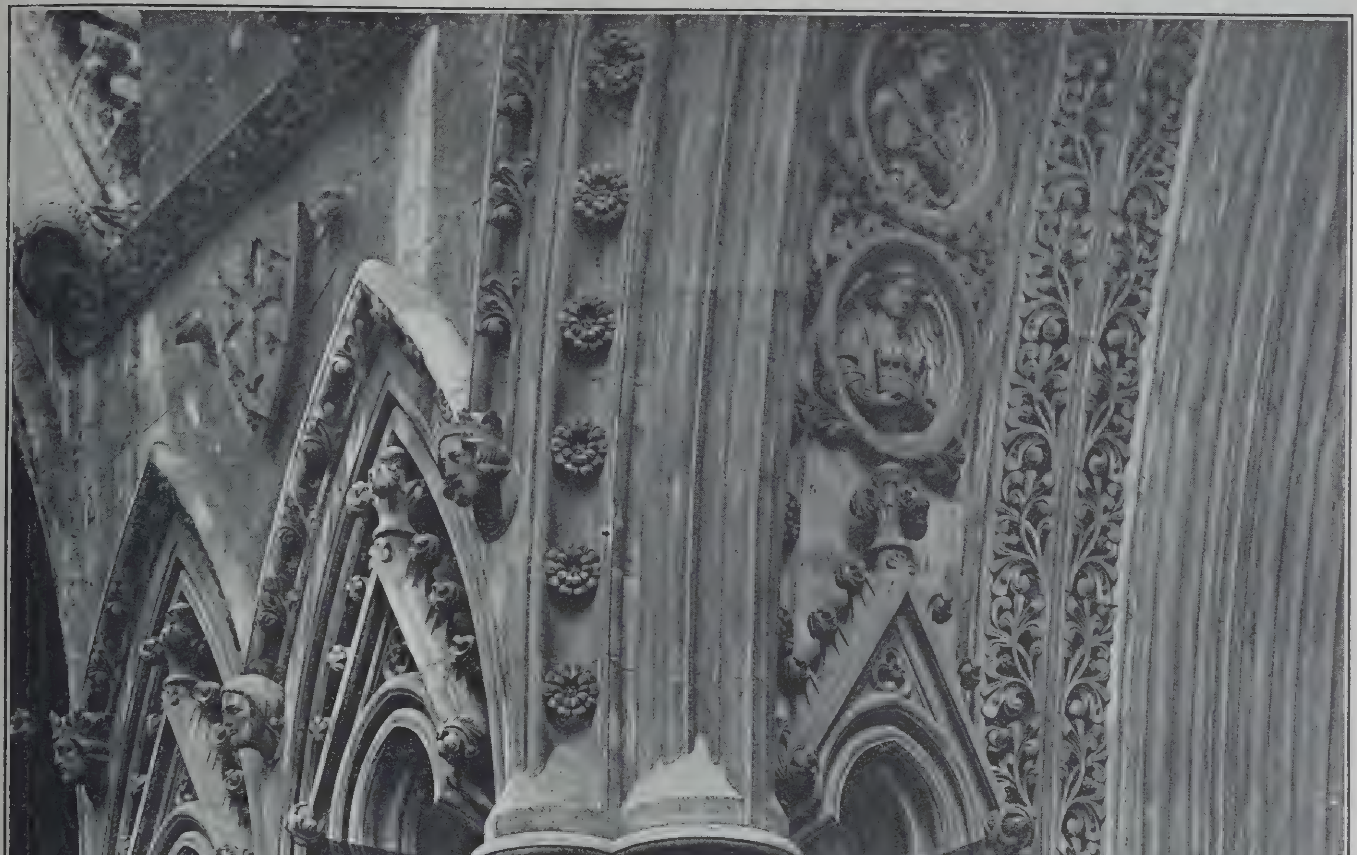
Westminster Abbey, No. 8.

Transept, looking North-East.



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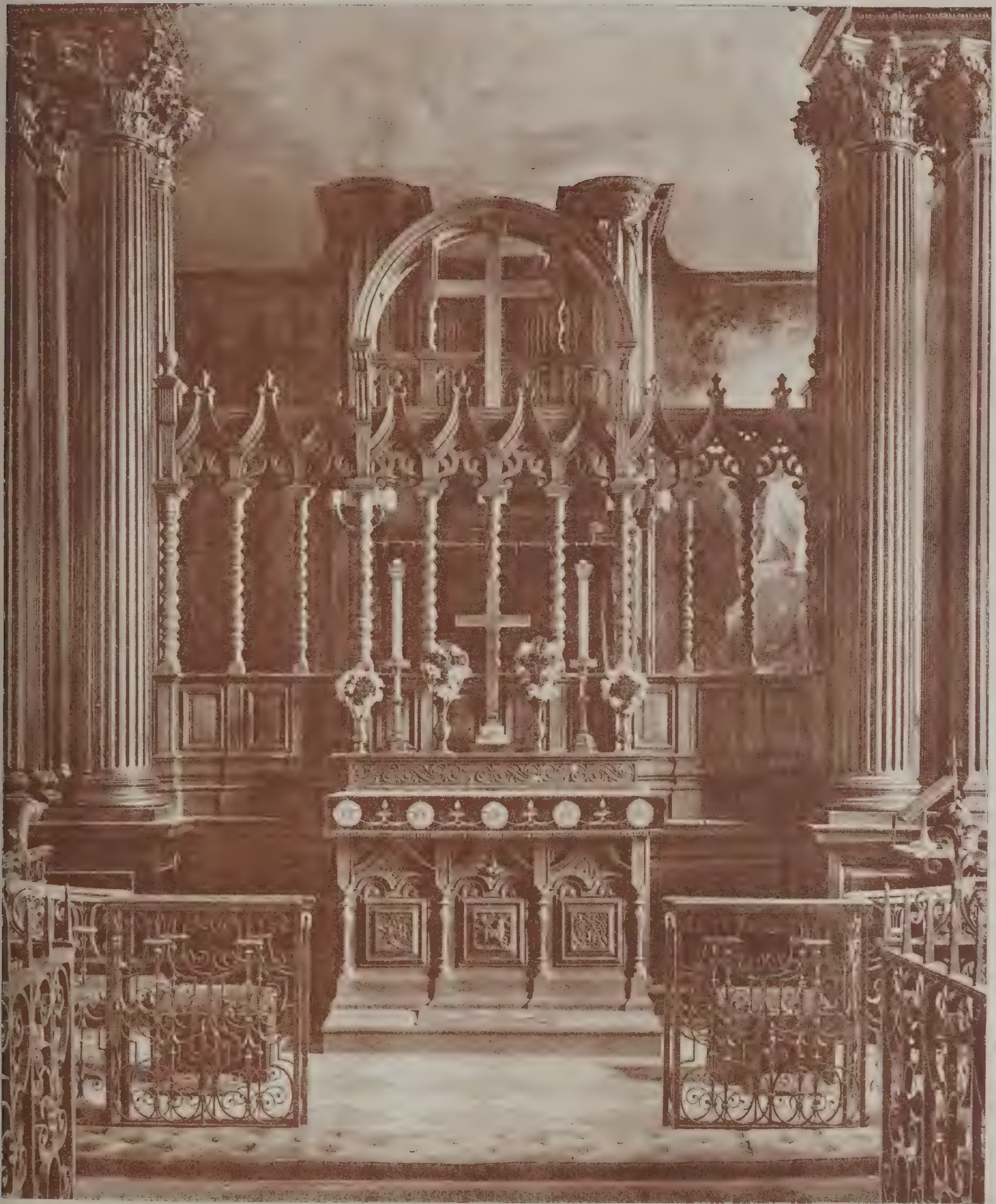
WESTMINSTER ABBEY, No. 10.
DETAILS OF NORTH PORCH.

The Architect. Jan 26th 1900



INK-PHOTO. SPRAGUE & Cº Lᵀᴰ 4 & 5 EAST HARDING STREET FETTER LANE E.C.

SCREEN: LITTLE STANMORE CHURCH.

Messrs. W. H. BONEY and C. H. WAINWRIGHT, Architects

The Architect.

THE WEEK.

THE action which was tried before the Lord Chief Justice on Friday last suggests that special juries are apt to consider that models which are supplied for casting are liable to risks which the sculptor must accept. The plaintiff in the action was Mr. SIMSION, and he sought to recover from Mr. FEHR, the sculptor, 62*l.* for casting two bronze griffins. The defendant counterclaimed 250*l.* for damage to the model. The plaintiff's explanation was that it was impossible to cast bronze from a plaster model without damaging the latter, as the damp sand used for making the mould had to be rammed with great force against the plaster, and the damp injured it. This was especially the case where two bronze casts had to be made from the original model. Parts of the model fell to pieces after the second mould had been made. The plaintiff said that he had taken every precaution, and that he would not have undertaken the work if he had been expected to return the model uninjured. Evidence was given that it would have been impossible to return the model in good condition after making two bronze castings. Mr. FEHR said that on no former occasion had his models been returned in a damaged state. He was of opinion that as many as twelve castings could have been taken safely. He brought witnesses to testify that, if reasonable care had been taken, the model could have been returned undamaged. The jury gave a verdict for 60*l.* in behalf of the plaintiff and 8*l.* for the defendant. There can be no general rule on the subject; many famous works were not successfully produced at the first attempt, and with the greatest care accidents can arise. We suppose models would not be accepted by founders if they were to be held responsible for breakages which might arise from defects in the model which were not apparent.

EUGÈNE DELACROIX was a great experimentalist with colours, and in consequence of the peculiar combinations which he employed, it is extremely difficult to make a copy of any of his best works. Some of his rosiest flesh tints when examined closely appear like masses of mud, and he did not hesitate to bring out effects by working on flesh with hatchings of green. In producing these results the painter never thought of the future, and the necessity that was likely to arise to clean his pictures. In the hall known as the Salle de Trône of the Palais Bourbon, or French House of Commons, the ceiling is painted with several figures which are typical of Justice, War, Industry and Agriculture. In other parts are various figures connected with France, among them being representations to recall the Rhine, Rhone, Seine, Garonne, Saône and Loire, the Ocean, and the Mediterranean. The paintings were lately subjected to a cleansing process, with the consequence that the whole of the canvases have lost the character which made them appear to be among the most remarkable of the works of DELACROIX. Little blame is, however, to be attributed to the experts. It appears that in completing the paintings the artist would not employ any of the glazings which are usual in oil-painting, but a special preparation to which he attached much value, that has entirely disappeared through the washing, and it is no longer possible to say that the Salle presents the highest qualities of colouring, imagination and poetry.

ALTHOUGH the Irish people are supposed to be remarkable for their generosity, it must be said there is little evidence that they give the benefit of the gift to architects. Whenever one is to be engaged an effort is generally made to diminish his commission or salary to an almost nominal amount. One of the latest examples comes from the pretty district of Celbridge. As economy appears to prevail in that region, we intend to give the authorities a gratuitous advertisement. An architect is required for district No. 1, with a salary of 50*l.*, inclusive of expenses; one is wanted for district No. 2 at a salary of 20*l.*, inclusive of expenses; one is also wanted for Celbridge Union at a salary of 30*l.*, inclusive of all expenses. But it is proposed to roll the three single architects into one, who will thus have the enormous income of 100*l.* a year, without any allowance for expenses, and who may employ as many clerks as he wishes and drive as many horses as he can feed about the district without asking further permission from his masters. It should not be surprising if most of the applicants for the lucrative offices have been hitherto engaged in avocations which are not commonly associated with architecture.

IN the abbey church of Fontevrault are tombs of HENRY II. and of RICHARD I., kings of England and counts of Anjou, of ELEANOR, wife of HENRY II., and ELIZABETH, wife of JOHN, king of England. The abbey, or a great part of it, including the nave, is now used as a prison, and, in consequence, very few tourists are able to see the memorials of a race which supplied England with no less than fourteen kings. The tombs were introduced last week in a speech on the French Budget of Fine Arts in the Chamber. M. LUCIEN HUBERT stated that the English nation demanded the surrender of the four figures of the Plantagenets. The Ambassador was able to obtain the necessary powers to carry them off. He went to Fontevrault with a band of assistants, but the gaoler, who was a type of the old Anglophobes, refused to surrender them, and, in consequence, they still remain in the prison. We doubt if the story, which amused the Legislature, will bear examination. What is likely is that application was made to obtain casts of the figures for the collection in the Mediæval court of the Crystal Palace, to be placed with the figures from Notre-Dame, Chartres, &c. As historical memorials the Plantagenet monuments are as interesting in Fontevrault as they would be in London, and they are never likely to form a *casus belli.*

THE arrangements are complete for the visit of the members of the American Society of Civil Engineers to London in the course of the summer. It is assumed that five hundred members will make the journey. Representatives of the Institution of Civil Engineers propose to meet the visitors at Liverpool and show them the dock system. They will then be taken by boat through the Manchester ship canal, and visit the railway workshops at Crewe. In London the whole of the Institution building in Great George Street is to be placed at the disposal of the Americans, and meetings will probably be proposed to include all engineering societies. A reception will be given in the Guildhall, which is to be lent for the occasion by the Common Council of London, and the American Ambassador, Mr. CHOATE, has promised to assist at a return reception to be given to the hosts. It will be easy to find accommodation together for 300 or 400 people at the new Russell Hotel in Russell Square. On the adjournment of the convention the members will be in time to reach Paris before the most important of the technical congresses are held there during the Exposition. There is no expectation of difficulty in securing passage for the return to America at any time. It is expected that in Paris board and lodging in pensions can be had during the Exposition for about 2 dollars a day.

A CASE of a rather novel kind was tried on Tuesday before Mr. Justice KENNY in Dublin. The plaintiffs, Messrs. BYRNE & WARMAN, were sub contractors on tramway works, and they sought to recover 412*l.* 11*s.* 4*d.* from Mr. WARD, the contractor, for work done, materials provided, &c. The case in reality turned on the interpretation to be given to the words "per square yard" of excavations. The plaintiffs maintained that the words "square yard" meant a superficial square yard, the excavation being 1 foot deep, so that if the excavation were 3 feet deep, 1 square yard would count as 3 instead of 1, as contended by the defendant. On behalf of defendant it was argued that the plaintiffs had received 410*l.* on account, which was 63*l.* 11*s.* 5*d.* in excess of the amount due to them. It was also stated that "square yard," when applied to excavators' work, signified "cubic yard." The judge said there was no evidence given to show that it was customary to consider a "square yard" of excavation as a superficial square yard, with a depth of one foot. If the plaintiffs' hypothesis were accepted, the defendant would have to pay them nearly three times as much as he was receiving himself. His lordship therefore decided the main point in favour of the defendant.

OUR NORMAN BUILDERS AND THEIR WORKS.

By James K. Colling.

In early days, when England had large forests of timber, oak was the readiest material for building purposes, and the Anglo-Saxons erected their houses, cathedrals and churches mostly of wood. The Saxons, beyond all other crafts, were clever shipwrights and carpenters, or "trewrights," as they were then called. Consequently their buildings were commonly built of wood. Their war-vessels, of which they were intensely proud, were richly carved, painted and gilded, and upon them they expended their utmost skill. Doubtless their churches and cathedrals were of equal importance to them. These they erected substantially, although in wood, with upright ribs or stanchions, after the manner in which they built their ships, but filling in the interstices with rubble-work and mortar, or sun-dried bricks, leaving the timbers showing on the outside and plastered within, in the same manner as has been handed down to us in the half-timbered constructions of Cheshire, Worcestershire and other parts of the country. They, however, built in stone when that could be readily obtained.

It is recorded in Saxon chronicles that King Canute, after he became a Christian, ordered churches to be built of "stone and lime" to replace those of wood which had been burnt down by himself or his father. Where the Saxons found the remains of Roman buildings existing they used them as quarries for their own works. Roman tiles are constantly found appropriated by them, but probably, also, they were skilled in the art of brickmaking and made bricks or tiles in the Roman form.

No remains of Saxon woodwork exist, but we have, or rather have many portions of, Saxon churches in stone. That at Brixworth, in Northamptonshire, is perhaps the most perfect of those remaining. There is historical evidence to show that some of the Saxon churches were built after the Conquest. Naturally, the new style which the Conqueror brought with him would not have penetrated into remote districts, consequently, where Saxon masons were employed, they still built in their accustomed manner and in their own style.

Saxon cathedrals were built upon the Roman basilica type, and not in the form of a cross. The basilica was the Roman public hall or court of justice. After the conversion of the people to Christianity by Constantine they were used in Rome for their meeting places. Therefore for a long time after the basilica formed the model for early Christian churches.

In 1051 Edward, called the Confessor, commenced the abbey church of St. Peter at Westminster upon a grander scale than had before been attempted in this country. This he erected on the plan of a Latin cross, probably the first that was built in that form in England. It was in the new Norman style, after the manner of the churches which were now rising in such numbers on the other side of the Channel. He invited workmen from Normandy to assist in building the new church, in which he introduced all the latest improvements. It was in every way a Norman minster, which, in comparison with those which previously existed, was of vast size, consisting of nave, aisles, transepts and choir, with an eastern apse and a central tower or lantern, which is supposed to have been of wood. How far the building was completed by Edward is uncertain, but sufficient was finished for the opening at Christmas 1065. Edward, however, was no longer able to take any personal part in the ceremony, and his death occurred on January 5, 1066.

With the exception of the foundations of three piers which exist below the present floor of the choir, near the altar, nothing remains of the Confessor's church. They are of large size, of Norman character, and are situated within the present piers of the abbey, one on one side and two on the other, indicating a narrower church than the existing one. They are, doubtless, the remains of the main piers of the former church. Edward, we are told, was buried before the high altar, and that his remains were not removed into the new shrine prepared for them by Henry III. until it was ready to receive them, consequently the present choir was built wider and higher than the old one, so as not to pull it down before the new one was completed. This is confirmed by undoubted authority, which records "that the old Saxon church was not taken down until all the eastern parts of the new one were finished." Outside the abbey church remain, of the Confessor's time, the pyx chamber, the dark cloister and a portion of the wall of the refectory.

Earl Harold had built, previously to the work at Westminster, a minster upon a smaller scale at Waltham, in the new style, which was consecrated in 1060. What it was like, or whether any portion of the present fabric is the work of Harold it is impossible to say. If any portion remains it can only be parts of the walling or foundations, as the church has been entirely modified by later alterations.

The abbey churches of Westminster and Waltham were the immediate precursors of that enormous activity in building matters which commenced as soon as the Normans were in possession of England. The Norman dukes were early patrons of architecture in promoting the erection of churches and cathedrals in their own country, and great energy and spirit were manifested by them in the advance of learning and the arts.

From the small abbey of Bec, in Normandy, appears to have emanated the round arched style, of the Normans, based upon the Romanesque of Lombardy and Northern Italy. Bec was founded by Herlwin in 1034 on his own estate, but it was afterwards removed to a more convenient site in another valley watered by a small stream, called by the Normans a beck. That stream gave its name to one of the most celebrated of Norman religious establishments, of which Lanfranc, the future patriarch of the Anglo-Norman Church, who was born at Pavia, became an inmate.* Bec expanded into a college, and was re-erected on a larger scale. Lanfranc, who no doubt brought with him some, perhaps considerable, knowledge of the architecture of his own country, assisted Herlwin, the founder, in the erection of the new and enlarged buildings. Thus we perceive the first link in the formation of the early Norman style, and how, by the aid of Lanfranc, it was founded upon the Lombardic form of the Romanesque.

From Bec came the most illustrious of our great men of the time, besides Lanfranc, such as Gundulph, Ernulf, Anselm and others, who had been drawn to Bec by the reputation of the learning and ability of Lanfranc.

William, who soon perceived the talent of Lanfranc, employed him as his ambassador to Rome to obtain from the Pope a dispensation to legitimatise his marriage with Matilda. This was granted, but a penance was imposed. They were each to erect a monastery as a token of repentance. At Caen arose the monastery of Matilda, dedicated to the Holy Trinity, and William's monastery of St. Stephen. Of the latter Lanfranc became the first Abbot in 1067. It is not improbable that he planned and arranged much of the work there, but he was soon again advanced. In 1070 he was created by William Archbishop of Canterbury, leaving the abbey at Caen very incomplete and to be carried on by his successors.

William was crowned at Westminster on Christmas Day 1066, and in the following year he visited Normandy, carrying with him some of the most beautiful works of the Saxons in gold and embroidery, in the working of which they were justly celebrated. These he presented liberally to the churches of his own country, but more especially to his own church of St. Stephen, to which he gave costly vestments embroidered in gold by the ladies of England, as well as golden crosses and chalices studded with jewels and precious stones. The king knew how to foster these native talents, and caused the royal state vestments to be worked in the most chaste designs in golden embroidery.

On the day the Conqueror returned to this country (December 6, 1067) the cathedral of Canterbury was destroyed by fire. Lanfranc, upon his arrival after his appointment, finding the cathedral in ruins, at once determined to efface the Saxon minster and other buildings and to erect the whole upon a larger and grander scale.

Edmer, the singer, records "that although the magnitude of the damage had well nigh reduced him [the archbishop] to despair, he took courage, and, neglecting his own accommodation, he completed in all haste the houses essential to the monks; for those that had been used for so many years were found too small for the increased numbers of the convent. He therefore pulled down to the ground all that he found of the burnt monastery, whether of buildings or the wasted remains of buildings, and having dug out their foundations from under the earth, he constructed in their stead others which excelled them greatly, both in beauty and magnitude. As for the church which the aforesaid fire, combined with its age, had rendered completely unserviceable, he set about to destroy it utterly and erect a more noble one. And in the space of seven years he raised this new church from the very foundations and rendered it nearly perfect."[*]

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* Many possessions in England were granted to the monastery of Bec. Among these was some land at Tooting, where a monastic institution was established. Hence the name of "Tooting Bec," which is retained to this day.

Lanfranc sent to Normandy for superior workmen, but above all for Gundulph, whose knowledge of architecture he was well acquainted with, from his having assisted the abbot in the erection of St. Stephen's. Common wallers and hewers of stone and timber might be plentiful enough yet from their ignorance of the Norman manner of building additional and more skilful workmen were necessary. Gundulph, a native of Normandy, became a pupil of Lanfranc's at Bec, followed him to Caen and Canterbury, and afterwards, by the influence of Lanfranc, he became bishop of Rochester.

We may easily imagine the archbishop striding energetically along among the rubbish as the ground was being cleared explaining his views to Gundulph, his old pupil:—

"Here I will have the church, as marked by the small holy crypt of our blessed father, St. Augustin, but extending far beyond it on every side. I must have long nave and aisles, after the manner of our St. Stephen's, with bold cross transepts, in memory of the extended arms of Our Lord on the Cross, with a long and dignified choir for the singers, and to contain the high altar of Our Lord and Saviour Jesus Christ. Let me have lofty piers and arches of surpassing beauty, worthy of our divine and holy worship and to the glory of God. Go thou, in all haste, prepare thy drafts and lay them before me."

Thus we may realise to ourselves the busy scene, whilst the charred remains of the old church were being removed, and the relics and bodies of the numerous martyrs and saints were being carefully set aside in a secure place, as minutely recorded by Edmer, the singer.

But not only at Canterbury was building activity being displayed, but church and castle building arose throughout the country, and was pursued for more than a century with a vigour such as never before had been known in the land. The church and abbey of Bury St. Edmunds were begun in 1070 by Abbot Baldwin. He was a great favourite of William I., who "issued his precept to the Abbot of Peterborough commanding that the Abbot and Convent of St. Edmund should be permitted to take sufficient stone for the erection of their church from the quarries of Barnack, in Northamptonshire." The abbey was celebrated from its being the place where were deposited the sacred remains of St. Edmund the Martyr, king of East Anglia, who was done to death by the Danes at Hoxne, in Suffolk, in 946. His death is thus described by Lydgate, a monk of Bury:—

The cursed Danys of newe cruelte
This martyr took, most gracious and benigne,
Of hasty rancour bound hym to a tre
As for the marke to sheet at and ther signe,
And in this wise ageyn hym ther maligne
Made hym with arwis of ther malis most wikke
Rassamble an yrchon [†] fulfilled of spynys thikke.

No part of the church is now in existence except a few crumbling walls, but the Norman abbey gateway still remains.

Remigius, a Benedictine monk of Fécamp, who accompanied the Conqueror to England, had been promised an English bishopric if the expedition proved successful. He was, therefore, made bishop of Dorchester in 1067, where he intended to have built a cathedral. The see was, however, removed to Lincoln, and Remigius there commenced to build his cathedral, wisely choosing for its site the brow of the "steep hill" overlooking the river Witham. What his cathedral was like cannot now be ascertained, as the only part remaining is a portion of the west front. It is said that he took for his model the cathedral of Rouen, which was destroyed by fire in 1200. Remigius lived to complete his cathedral, but he died four days before it was consecrated (May 8, 1092).

At York a great portion of the city, including the Saxon minster, as well as its celebrated library, had been destroyed by fire during the devastation inflicted by the Conqueror. When Thomas of Bayeux, the first Norman archbishop of York, was appointed in 1070, he found his minster in a deplorable state of ruin. He endeavoured to repair it in the best way he could, but to no good purpose. He therefore destroyed what remained of the old church and entirely rebuilt his minster, which he finished during his episcopate. The western end of the crypt is the only part of his work remaining. His father was a priest of Normandy, and Thomas, with his brother Sampson, who afterwards was made bishop of Worcester, came to England under the protection of Odo, bishop of Bayeux.

St. Albans Abbey, dedicated to the proto-martyr of England, was commenced upon a grand scale in 1077, by Abbot Paul, a relative of Lanfranc, who assisted him with funds. Paul, ambitious that his church should be superior to all others, greatly exceeded in size the cathedral at Canterbury or the Conqueror's church of St. Stephen at Caen. The existing eastern bays of the nave, the tower and transepts are the remains of his work. The nave is an unusually long one, originally containing no less than thirteen bays, while Canterbury and St. Stephen's have but nine. Of these, nine bays still remain on the north side and three on the south, with a portion of the aisle groining. The whole ot the work is of the plainest and most simple character, plastered and totally devoid of ornament, in consequence of its being almost entirely built of Roman tiles. The ancient city of Verulam supplied an abundance of these materials, which influenced the forms of the architectural details.

In the triforium arcading of the transepts were reused a series of Saxon balusters which belonged to an earlier structure. "In order to lengthen them and to adapt them to their present position the Normans added caps and bases, which are worked by the axe, while the balusters are smooth, evidently turned in a lathe."[*]

How far Abbot Paul was the designer of his own church we know not. But there is a notice existing among the ancient records "that Robertus *Cementarius*—that is, mason—was employed at St. Albans in 1077, and who, apparently as a reward for his skill and labour, in which he is stated to have excelled all the masons of his time, had granted to him and his heirs certain lands and a house in the town."[†] It is not improbable that he was the master mason, or what we should call at the present time the architect, although the term was not then used.

It is a disputed point as to who were the designers or architects of our Mediæval buildings. The late Wyatt Papworth says "that it is to the master mason as a general rule that we may turn for the actual designer of the well-known erections of the Middle Ages." This may be true to a great extent, but we cannot suppose that such men as Lanfranc and Gundulph, who saw and directed the works at Bec, Caen and Canterbury, knew so little about architecture that all the designs for their buildings were left to their master masons. However that may be, we cannot doubt that these men, whose names have been handed down to us, were the builders and projectors to whom we owe these various magnificent works, even if they were not also the architects.

(*To be continued.*)

The Fourth Ordinary Meeting of the Liverpool Architectural Society will be held at the Law Library, 41 Castle Street, Liverpool, on Monday next, February 5, at 6 P.M., when a paper will be read by Mr. A. Stratton, A.R.I.B.A., on "Santiago de Compostella," with limelight illustrations.

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[*] Willis's *Architectural History of Canterbury Cathedral.*

[†] Hedgehog.

[*] Neale's *Abbey Church of St. Albans.*

[†] The late Wyatt Papworth.

KIMBERLEY *v.* DICK AND WHITE.

As we stated last week, the undesirable privilege belongs to the late Mr. William White of being connected with one of the most important lawsuits relating to building which is to be found in the records. The case was heard by Lord Romilly, the Master of the Rolls, in 1871. It is referred to in every treatise on the law of building published in this country and in the United States. For in few cases were so many important points raised and decided concerning clients, architects and contractors. But owing to the lapse of time the circumstances are generally forgotten. As there was much which was remarkable about them, the present may not be an inopportune time to recall them to another generation of architects.

In 1866 Mr. Wentworth Dick was member for county Wicklow in Ireland. He wished to have a residence suitable to his position erected on his estate of Humewood. His agent therefore wrote to Mr. William White on the subject. He stated that the cost of the building was not to exceed 15,000*l.*, including architect s fees. Mr. White by letter accepted the commission under the conditions stipulated, and was subsequently requested to prepare the plans and specifications. For some reason not mentioned the architect was eager to have the work started without the delay which is commonly required for preparing plans. Mr. Albert Kimberley, a builder living at Banbury, near Oxford, was invited to take up the work. He came to London, and on three days he attended at Mr. White's office. The evidence about what took place at that time differed. Mr. Kimberley said there were only rough plans shown to him, but it was guaranteed by Mr. White that the detailed plans would be prepared in such a way as to correspond with them, and their execution would not exceed the amount of the tender. Mr. White, on the contrary, declared that the business was considered in detail, and that sufficient materials were laid before the builder to enable him to arrive at a correct estimate of the value of the work. As the provisional drawings existed they were produced in Court. The Master of the Rolls was not impressed by them. He declared them to be rough and indefinite, and apparently insufficient to satisfy anyone about the extent of the works which were to be carried out, although his lordship added that a professional mind might be able to make more out of them. Mr. White, it was admitted, distinctly stated that he was not to be held responsible for the correctness of the quantities, and if Mr. Kimberley did not see his way to accept the figures which were arrived at, Mr. White was willing to go over the plans again, and if possible to persuade Mr. Dick to increase the amount to be expended. Both Mr. White and Mr. Kimberley appeared to be anxious to secure the work, and on March 29, 1867, a tender was addressed to Mr. Dick by which Mr. Kimberley agreed to erect the mansion, offices, stables, &c., according to the plans, for the sum of 13,690*l.*, and to enter into a proper contract. It was also agreed that any questions that might arise were to be left to the sole adjudication of the architect. It will suggest the desire for expedition when it is said that on April 7, 1867, the contractor sent his son and a foreman to Ireland, and they were engaged on the preliminary arrangements and foundations until June.

We may now consider the legal positions of the parties in the first stage. Mr. Dick had made it clearly understood that he was resolved to expend no more than 15,000*l.*, and Mr. White had assured Mr. Dick that the sum was sufficient to cover everything connected with the house which was about to be designed. There was no doubt, as Lord Romilly said, that Mr. White had become the agent of Mr. Dick for all purposes connected with the building, and in spite of the stipulation without any limitation as to price or anything else. The sum of 15,000*l.* was no doubt mentioned, but Mr. Kimberley was not informed of that arrangement and it could not affect his position That was the first blunder committed, and it put the case outside the category of ordinary building contracts. As the Master of the Rolls said, "Any contract between an employer and an architect which was out of the ordinary course of an architect's employment, or which limited the architect's powers as set out in the builder's contract with the employer, would be a fraud on the builder if it was unknown to him." What added to the strangeness of the situation was that all the parties were unconscious of it, and that the contract deed was prepared under counsel's direction.

There were other circumstances connected with the preliminary arrangements which when described were enough to prejudice the Court against the architect. Mr. Kimberley was inspired by the utmost faith in Mr. White's sense of equity. In one of his declarations he said:—"From being much associated together in business, and from having up to the occurrence of the matters complained of in this suit always worked harmoniously together, I came to regard William White as my friend, and to place implicit confidence in him in our business relations. I do not mean that I would have expected him to allow irregular or unauthorised claims supposing I had been capable of making them, but I certainly believed that I could trust him with my interest so far that he would not knowingly impose upon me or suffer me to be imposed upon in anything within the scope of our business relations." Owing to the hurry the quantities were not taken out in detail, but who was responsible for them was disputed. Mr. White said he did not take out the quantities as a surveyor to the contractor, nor in any way guaranteed their accuracy, and that he had never received one penny from him for the work. The cost of taking them out was paid by Mr. Dick, not as surveyor's work but as part of the detailed estimate. At any rate as the quantities, or approximate calculations of them, were prepared by Mr. White, it was as the agent of Mr. Dick, and consequently Mr. Dick became responsible for their accuracy.

The second stage was also involved through the effort to be expeditious. On June 12, 1867, one of Mr. White's assistants went to Banbury with the contract deed and specification for signature. Mr. Kimberley happened to be very ill in bed. It was not a convenient time to examine the working plans, which were fifteen in number, and which had not been previously seen by him. The assistant said he was engaged for more than an hour with the contractor, but other evidence was given by which the time was reduced to twenty minutes. Lord Romilly considered that an hour was not sufficient for Mr. Kimberley to examine the documents, but if a man will rashly enter into an important agreement, and will not call in his solicitor to aid him, he must of course accept the consequences.

The works went on for a time without any misgiving on the part of the builder that the contract he was bound to execute would not be within the amount he had entered in his tender, or that the numerous and costly extra works would not be paid for without demur. His awakening to the reality of the affair was sudden. In January, 1869, Mr. White read a paper on Humewood before the Institute of Architects. He described Mr. Kimberley's work in glowing terms, and said while living in a granite district he had not seen a better example of granite work or better joinery. The granite was executed under the supervision of an English foreman and the joinery was sent over from England. It was also stated that the whole cost of so important a mansion was 15,000*l.* It could no longer be concealed from the contractor in what spirit the contract deed was to be interpreted, and the revelation of the limit of 15,000*l.* would be fatal "if accepted" to any claim for extras or for works omitted from the drawings. There were also penalties which of course would be exacted if they were incurred. The contractor vainly endeavoured to gain information about his true position, and at last was obliged to give notice that the works would be suspended, and they were so from January to May, 1869. Correspondence and serving of notices followed, and in June, 1870, possession was given by the contractor to Mr. Dick's representatives without prejudice to the rights of either party. The result was, in the words of the Master of the Rolls, that Mr. Dick obtained an unfinished house which cost over 20,000*l.*, and he refused to pay more than 13,690*l.*, while the architect refused to give a certificate for the balance.

It became necessary when legal proceedings were commenced to make the architect a party in the case. His counsel, Sir R. Baggallay, contended that an architect was a quasi-contractor and a quasi-agent; that he did not fill either of those positions particularly, but was occupied with both. There was no collusion in the case between the architect and the employer. If the architect could be proved to have acted unfairly the contractor would have a remedy, but not otherwise. It would have to be made out that at the time when the quantities were estimated Mr. White was cognisant of their inaccuracy. Mr. White had stated that in other works designed by him on which Mr. Kimberley had been employed the plans and specifications were furnished to him only a few days or a week before entering into the contract, and therefore there was no novelty in the arrangements relating to Humewood.

Counsel for the plaintiff, in reply, attached great weight to a sentence in the description of the building which Mr. White read before the Institute. Speaking of the house he said:—"It has been worked up to a form very different to that which I first sketched, by gradual and successive stages of idea on my own part, as well as of requirement on the part of the proprietor." There could not be stronger evidence of the great difference between the plans which Mr. Kimberley had undertaken to carry out and those from which he was compelled to work The evolution of a design is an interesting subject to bring before a meeting of architects, but the most fitting time is either before the contract is let or after the accounts for the work are settled. Mr. White's desire to seize time by the forelock and to obtain the applause of his fellows was disadvantageous to him. His statement was quite enough to prove there was elasticity in his arrangements, and that is not an admired quality in law courts.

Lord Romilly realised the embroilment. Mr. Dick had received not the least notice that his house was to cost more than 15,000*l*., and apparently he lost no time in meeting all the certificates of the architect when they were sent to him. There was no doubt that Mr. White had bound himself to the prescribed outlay, but the arrangement between them did not in any way diminish Mr. Dick's responsibility to the contractor. The money that was owing to Mr. Kimberley the Master of the Rolls considered should be paid. His lordship also decided that, under the circumstances, the arbitration clause by which the architect became sole judge in case of disagreement was null and void, and for a similar reason because a contract existed between the employer and the architect which was concealed from the contractor. But the amounts to be paid to Mr. Kimberley were considered by the Master of the Rolls to be too detailed for the Court to investigate, and the only course open was to leave the matter to arbitration, which his lordship considered was the most dilatory and expensive of all tribunals

Afterwards common sense prevailed, and the claims on both sides were settled, but it could not be said that any one of the parties was satisfied. Mr. Wentworth Dick was saddled with an unfinished house, and under the circumstances completion would be costly. Mr. White lost a client, and it was proclaimed far and wide he was not much of a protection for whoever entrusted their interests to his charge. As for the contractor, men of his class receive little sympathy when they enter on lawsuits to which an architect is a party. The whole case was a muddle, which might have been avoided by a little attention to consequences. Kimberley *v.* Dick and White will always be a leading case, but it would be a gain to architects if all the proceedings could be erased from the law reports.

MODERN HOUSE CONSTRUCTION.[*]

THE advice given by Bacon that "Houses are built to live in and not look upon; therefore let use be preferred before uniformity, except where both may be had; leave the goodly fabrics of houses, for beauty, only to the enchanted palaces of the poets, who build them with small cost," is enough to suggest that at the end of the sixteenth century people were beginning to realise that a beautiful Elizabethan exterior was not enough to make a comfortable habitation. It is easy from his words to see how difficult it was to erect a house in England which would be equally adapted as a summer and as a winter residence. According to a great man the North is the region of calefaction and ventilation, and the means to insure both were primitive in the Tudor period. Bacon's idea of a house cannot be recommended for realisation in our time, and his precautions against "dampishness" and other evils would hardly be effectual. In his day it was difficult to combine a handsome exterior with the arrangements which are necessary for a healthy house. There is still so much attention given to appearances, it has been made an objection against architects, and they are supposed to be more or less indifferent about heating, ventilation, drainage and other prosy but indispensable requirements. If we divide an architect's knowledge into two divisions one will comprise those subjects, and he can be examined about his acquaintance with them. They form the contents of the two massive volumes edited by Mr. Lister Sutcliffe which have just appeared.

The work consists of twenty sections, all of which are written by gentlemen who can be considered to be specialists. Professor Kerr treats of Planning; the editor takes up Construction and the Improvement of existing Houses; Mr. Henry Law, Water Supply; Mr. Henry Clay, Domestic Water Supply, Sanitary Plumbing and Gas; Dr. Jossé Jonson, Household Filters; Mr. Keith D. Young, Sanitary Fittings; Mr. William Spinks, Drainage; Mr. H. Percy Boulnois, Sewage Disposal; Mr. E. R. Dolby, Warming; Mr. E. A. Claremont, Warming and Cooking by Electricity and also Lighting; Mr. William Henman, Ventilation; Mr. J. Murray Sommerville, Gas-producing Apparatus for the Illumination of Country Houses; Dr. Willoughby, the Sanitary Aspects of Decoration, of Furniture, besides Climate and Situation; Mr. W. H. Wells, Sanitary Inspection of Houses; Mr. F. W. Lockwood, Stables and Cow-Houses; and Mr. Winter Blyth, Sanitary Law. It will be seen from this inventory that an array of treatises will be found in the two volumes which are of utmost importance to all who design or erect buildings. We may add that in addition to plates there are over 700 woodcuts, mostly relating to inventions of the most approved character.

The introduction by Dr. F. W. Andrews relates to the importance of sanitation in its various aspects. It is pointed out that immunity against disease, in which a house can be an agent, cannot be insured by the architect or builder alone. "In vain," he says, "will the contriver of the house have planned the ventilation unless due attention be paid to it afterwards. Windows are designed for admitting the sunlight, and the pulling down the blinds may save the curtains and the carpets from fading for a time, but fading health is worse than fading carpets."

We should have liked a longer treatise on planning from Professor Kerr, who has written much on the subject, but within the limits assigned to him he has given many valuable suggestions. The elementary principles of planning, he maintains, are always the same in this country, and "the foremost of which, and the most uncompromising, are convenience and salubrity, coupled with the advantages of genial aspect and the graces of intentional pleasantness as far as circumstances will allow." His essay indicates the spirit with which the remainder of the work should be studied.

Mr. Sutcliffe devotes over a hundred pages to the subject of construction, in which he utilises the conclusions of several experts. That he derives information from very late examples is suggested by what he says when speaking of Permian sandstone. He refers to the new Rylands Library in Manchester, remarking that architects will watch with interest the behaviour of the Cumberland stone, for others of the same formation have not earned a good reputation. An example is also set in this article, which is followed by the other writers, of describing patented inventions. A great many aids to sound building and sanitation are in the market, each of which represents many years' study and experiment. It is not fair to those who have laboured in their production to have them ignored as if they were of little advantage or were to be employed secretly. An architect cannot design all the appliances which are needed in a modern house, and there is no reason why he should be ashamed of the co-operation of manufacturers. The editor refers to Shoppee's patent brick, Cockrill-Doulton patent tiles, hygienic block partitions, the Expanded Metal Company's layers of lathing which impart strength and safety, Moore's hearth boxing, &c., and throughout the book similar inventions are described.

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[*] *The Principles and Practice of Modern House Construction*, including Water Supply and Fittings—Sanitary Fittings and Plumbing—Drainage and Sewage Disposal—Warming—Ventilation—Lighting Sanitary Aspects of Furniture and Decoration—Climate and Situation—Stables—Sanitary Law, &c. Edited by G. Lister Sutcliffe. London: The Gresham Publishing Company.

Mr. Clay, in writing on domestic water supply, calls attention to the patent indestructible taps which Lord Kelvin has invented, and which are not the least important of his lordship's contributions to practical science. It is said that there are no less than twenty-six varieties, and they have been lately improved by "the substitution of vulcanite for metal, so as to avoid having metal pressing against the metal seating." Mr. Clay, with much justice, censures the imposition by water companies of fittings which are not always the best to be found in the market. We are told that the tendency in all such cases is to restrict to the lowest limit the number of fittings to be stamped, and newer and better appliances are often shut out because sufficient weight and influence cannot be brought to bear on the officials who represent the companies. Various London districts, for instance, favour particular makes of syphon-flushing cisterns, none of which are accepted in Liverpool or Manchester, although it is possible to get a special permit. The cistern in favour at Liverpool is not allowed in Manchester, and reciprocally some of the Manchester cisterns are not allowed in Liverpool. For boilers the "Independent" type is recommended, but, owing to the deposits from incrustation, there are parts of the country where they last only a couple of years.

Justice is done in the chapter on sanitary plumbing to the City and Guilds of London Technical Institute and to the Plumbers' Company. As usual, however, Mr. Clay, in common with the majority of modern plumbers, is unfair towards architects, for he speaks of thousands of buildings being erected every year on which no architect ever sets foot even when employed. At first the plumbers sought to be independent of builders, now they appear to aspire to be independent of architects. There are so many appliances available for all varieties of plumbing, it is very difficult to determine their respective values. The syphonic closets recommended are Holt's and those of Messrs. Ashworth Bros. Mr. Keith Young considers that Hellyer's "Optimus" is an excellent example of a valve closet which admits water all round the ring, has a large overflow, and is easily cleaned. The late George Jennings's "Plug Plunger" closet was in its day an advance on the old system. Bolding's "Laydas," Jennings's and Moreland's "Closet of the Century," Hellyer's "Corbel" and "Bracket" closets are also described. The subject is likewise treated in the chapter on the "Improvement of Existing Houses." Shanks's "Combination" silent closet and cistern is deservedly commended, and with reason, for like all the sanitary productions of the firm, it always preserves a character for efficiency. Oates & Green's "Channel" syphon is another appliance that is satisfactory.

One of the first appliances described in Mr. Spinks's article on drainage is the drain-pipe designed by Mr. Plummer, architect, Newcastle-on Tyne, after several experiments. The invert forms a different curve from the rest of the section. It is claimed for it that solid matter in the drain is in contact with a stronger and deeper stream of water than is the case with a circular pipe of similar diameter. There are many arrangements for jointing pipes. Stanford's joint has been in use since 1873. Doulton's self-adjusting joint resembles it to some extent, but has additional advantages. Hassall's joint is another of the same class. Among the later joints in the market are Wakefield's and Sykes's. The by-laws of 1877 prescribe that drains should be encased in concrete in order to increase their strength. With so many improvements accomplished by inventors, that regulation has become almost obsolete. Mr. Spinks says of it:—"Surrounding the pipe with concrete is both a clumsy and expensive expedient, as will easily be seen, especially where the drain has to pass under a building; and one great objection to it is the difficulty of access when it becomes necessary to make a connection to the drain required by any extension of the system. This method of embedding a pipe in a surround of 6 inches of concrete would increase the cost of a 6-inch drain under the most favourable circumstances by at least 5*s.* per lineal yard." For testing drains Mr. Spinks prefers water pressure, especially when Jones's apparatus is employed. It is often a difficulty to discover the course of the drains in large houses. He recommends that plans should be filed and kept at the district office. Since by-laws were enacted plans showing drains were supposed to be lodged, but they do not always show them as executed. Sewage disposal is a large subject, and after his long practice as a borough engineer Mr. Boulnois has a claim to be considered as an authority upon it. With all his knowledge he is compelled to arrive at the following conclusions:—"It is a difficult subject, as engineers, chemists and the legislature differ on so many points connected therewith. No hard and fast rules can be laid down, but each case must be taken on its merits, and the choice of any system for the ultimate disposal of sewage must necessarily be left to the judgment of experts." With that verdict there will be general agreement.

Mr. Dolby does justice in his chapter on warming to Galton's, Grundy's, Boyd's and Heim's grates and stoves. Praise is bestowed on the arrangement of the Shorland grate, by which warm air is delivered into the upper part of a room. Shorland's "Calorigen" is said to be of superior merit. For gas stoves credit for improvements is rightly attributed to Mr. Fletcher, of Warrington, whose name must always be associated with the employment of gas for heating purposes. Heim's "Calorifer" is another important appliance which has largely been used on the Continent. The Key or Plenum system of warming and ventilation has been also found to be efficient. Among hot-water boilers attention is called to those of Renton, Gibbs & Co. and Körting's, for which it is claimed there is absolutely no risk of explosion. Körting's system of low-pressure steam heating is said to have considerable advantages, as "the heating may be carried on continuously or with breaks, as may best suit the character of the building, the season of the year, or the preference of the owner." The firm have lately invented radiators so disposed that, although warmed by steam, there is that agreeable heat afforded by low-pressure water coils without any of their risks or without the disadvantages of freezing. The Coil radiator, by Messrs. Cannon & Sons, affords a large heating surface by tubes arranged spirally in a very small area. For other purposes Rosser & Russell's radiator is peculiarly well adapted. Each separate loop is screwed into the base, and indiarubber is not employed for making the joints.

We suppose there will be soon a more general use of electricity as a means of heating. The power has been employed in cooking, and, according to Mr. Claremont, all that is necessary is "to convert the cooking plate into something more artistic in appearance and then call it a radiator." It is claimed that many benefits would follow from electric heating. It is employed in the Vaudeville Theatre, and the "temperature of the auditorium can be kept at a standard temperature of 60 degs. when the passages are only 40 degs., by the use of a current of 90 ampères and at a cost of only 3*s.* an hour."

Mr. William Henman contributes an excellent treatise on the principles of ventilation. He wisely says it is impossible to lay down absolute rules which will in every case be effective. Although his employment of one system—the Plenum—has done much towards its success, he does not confine himself to it, but describes several methods both faithfully and with impartiality. It is well, however, to have a clear idea of what ventilating apparatus can do, and what is impossible. Mr. Henman therefore says:—"Many people have a vague idea, fostered by the claims of rival manufacturers, that when ventilators are once fixed, constant and comfortable ventilation can be secured without further personal attention. If it be clearly understood that such is impracticable, then their employment will not be discontinued, but they will be used with greater discrimination and regulated to suit the various changes of weather." In a supplementary chapter the editor describes the houses in Bedford Park and Hampstead in which Mr. E. J. May employed one arrangement for warming air and for the abstraction of vitiated air. Both have been successful, but they have not been imitated.

There is much information about the electric lighting of houses contributed by Mr. Claremont. Mr. Clay takes up the subject of gas-lighting. The incandescent lamps are described as the latest development. He is of opinion that the extra cost of incandescent gas-burners, with renewals of mantles, chimneys and globes, will be saved in one to two years, according to the amount of gas consumed.

Mr. W. H. Wells, an inspector of Newcastle-upon-Tyne, has written a suggestive section about the inspection of houses, which will be useful to others besides sanitary officials. It shows the imperfect state of legislation when we find him stating there is a doubt whether the Public Health Act gives the local authority power to require a water-flush in closets, except in special cases where by-laws can be made. Nor is there power to remove a soil-pipe if it be found in the interior of a house unless it is defective.

In the chapter on stables much is, of course, said about the arrangements for which animals are indebted to Messrs. Musgrave, of Belfast. It may be mentioned that a suggestion for ventilation by Mr. Waterhouse, R.A., is also given, which is thus described:—"The end of the stall division nearest the horse's head is cast hollow, in the form of an oblong tube, at the lower end of which the air is introduced by a grating in the outside wall, and passing up the hollow with an impetus towards the ceiling, spreads out all round, with the absence of draught usual in the Tobin system."

When Sir Henry Wotton wrote his "Elements" it was with manifest hesitation he suggested that an architect might imitate a philosopher, and not consider questions relating to timber, stone, sand, lime and clay as beneath his attention. He admitted that the duty was more proper for a second superintendent or officinator, leaving to the architect the great glory of "the designment and idea of the whole work," and whose "truest ambition should be to make the form which is the nobler part triumph over the matter." So ideal an arrangement has not been adopted by clients or sanctioned by law courts in modern times. The architect is responsible for everything, whether seen or unseen, in the building he has undertaken to have erected. But there is a wish that a division of labour of that kind could be effected. Meanwhile things must be taken as they are, and it is well to consider drains, sanitary fittings and other apparatus which have not an artistic appearance when drawn on paper. The whole of these subjects are brought together in the volumes we have noticed, and are presented for consideration in a satisfactory manner. "Modern House Construction" is in fact an encyclopædia relating to one important division of building, and the subjects are treated in a manner which commends itself to those whose time for reference and study is limited.

ROYAL GLASGOW INSTITUTE.

The thirty-eighth report of the council of the Royal Glasgow Institute of the Fine Arts has been issued. At the close of the financial year, August 31, 1899, the amount of capital stood at 23,713*l.* 7*s.*, as against the amount in last year's balance sheet of 23,471*l.* 16*s.* 7*d.* Of this increase 150*l.* is due to the subscriptions of new members—all carried to capital account—and the remaining 91*l.* 10*s.* 5*d.* to the profit on the year's revenue account. The exhibition of 1899 met with the hearty approval of both artists and the general public, but owing to the unfavourable weather that prevailed for a considerable time after the opening of the exhibition, the receipts at the door fell slightly short of those of the preceding year. This loss, however, was considerably more than counterbalanced by a diminution in the expenses and an increase in the returns from rentals. The council have had under their serious consideration the subject of the electric lighting of the galleries, and in anticipation of the adoption at an early date of the electric light, have had the main cables led into the galleries. The cost for these cables is included in the general revenue charges of the past year. After much earnest deliberation the council decided to delay until the summer of 1900 their final decision as to the system to be adopted in the galleries. The present state of the membership is as follows:—Contributors of 25*l.*, 50; of 10*l.*, 641; of 5*l.*, 34—in all 725, of whom 15 have been elected since last report; six are lady members, and 95 professional painters, architects and sculptors. The council congratulate the members on the satisfactory nature of the year's report. Year by year the financial position of the Institute is growing stronger, and its influence as a centre of encouragement to art effort is becoming wider and more generally recognised by artists in all parts of the world. Each individual member of the Institute may add to its power for good by doing his best to extend its connection and membership.

THE GLASGOW INSTITUTE OF ARCHITECTS.

A general meeting of this Institute was held on the 25th ult. in the rooms, Pitt Street, Mr. David Barclay, president, in the chair. Mr. C. J. MacLean, writer, secretary, read a recommendation from the council that honorary membership be conferred upon Messrs. John Burnet, 167 St. Vincent Street, and John Honeyman, 140 Bath Street, which was unanimously agreed to. The secretary read a letter from Principal Story accepting with pleasure the honour done him by the Institute in electing him as one of its honorary members. The President reported what had been done by the committee regarding the Buildings Regulations Bill, and after discussion the matter was remitted back to the committee with powers. It was reported that the Alexander Thomson Memorial travelling studentship of 60*l.* had been conferred upon Mr. L. Rome Guthrie, who was trained in the office of Mr. Wm. Leiper.

KILDARE ARCHÆOLOGICAL SOCIETY.

A general meeting of the County Kildare Archæological Society was held in Naas on the 24th ult. The Earl of Mayo, president, occupied the chair.

Sir Arthur Vicars read the report of the Council, which stated that the progress of the Society had been fully maintained in the past year. Although they could not claim that much practical work had been done in the way of restoration of ancient monuments within the district, a good deal of useful work had been done in the literature supplied through the medium of the journal and in the enjoyable summer excursion meeting. Their treasurer's report would show that the financial condition of the Society was satisfactory. Their roll of membership now amounted to 156, of whom 14 were life members and one an honorary member. The excursion meeting in September last took place at Ardrass, Rathcoffey, Clongowes Wood College, Clane and district, and the Council thought it might be characterised as one of the most successful and enjoyable excursion meetings they had had, both in regard to attendance and in the places of interest visited. The Council regretted to report the death of Sir Thomas Deane, who did so much work preserving the ancient monuments throughout Ireland.

The President said they had to fix on the time and place for this year's excursion, and they all knew how much the success of the Society depended on this annual excursion The Council thought that Ballymore-Eustace would be a good centre at which a paper on the history of the district might be read. From that they might go to Coghlanstown and visit the Druidical circle of stones and remains of a rocking-stone. They might also visit Poulaphuca, which, if it did not possess archæological interest, was in many respects an attractive place.

The proposal was adopted.

Lord Walter FitzGerald read a paper on "The FitzGeralds of Ballyshannon, County Kildare." Ballyshannon, he said, lay five miles to the south-east of the town of Kildare. The present name was a distorted form of the original, which was Bel-atha-Sheanagh, meaning the mouth of Shannagh's Ford. Lord Walter then referred to the early history of the locality, and said that in the "Annals of the Four Masters" it was stated that a battle was fought there B.C. 621 by Conmael MacEmor, king of Ireland. In A.D. 733 a great battle was fought there between Ulstermen and Leinstermen, in which the latter were defeated. In the course of the paper it appeared that the FitzGeralds of Ballyshannon were descended from the seventh Earl of Kildare. Lord Walter traced the history and fortunes of the family, and showed that their forfeited estates passed to the Annesley family. Reference was made to the siege of the old castle by Cromwell, whose mortars were placed within 50 or 60 yards of the castle.

Sir Arthur Vicars said he regretted that, having regard to the period of the year at which they met and other causes they had not other papers, but they endeavoured to make amends by exhibiting some things which he believed would be regarded with interest. Sir Arthur then exhibited an interesting old engraving representing the funeral procession of Sir Nicholas Bacon, showing the catafalque and the various classes of persons in the costume of the time who took part in the procession. He also exhibited the original grant of arms to Sir William Petty, the arms of the Commonwealth, with Cromwell's own family arms; arms connected with the Dukes of Ormond of the seventeenth century were also exhibited. Sir Arthur read from an old manuscript (date 1485), which contained an account of the court ceremonies of Henry VII He also exhibited an engraving, running a length of about 12 or 15 yards, descriptive of the funeral procession of William III. It was, he said, a very scarce print, and was dated 1702.

NOTES AND COMMENTS.

THE new railway terminus on the Quai d'Orsay, Paris, will be unique owing to the importance of its artistic decoration. M. LALOUX, the architect, has been able to secure the co-operation of several of the ablest painters and sculptors in France. The walls of the central hall, which has a glass dome, will be painted by M. CORMON. The ceiling of another hall will be the work of M. BENJAMIN CONSTANT. In the decoration of the vestibule three painters will unite, viz. MM. DAMERON, EUGÈNE BOURGEOIS and JOUBERT. The principal rooms in the adjoining hotel will have decorations by M. GABRIEL-FERRIER and M. FRIEDEL. The façade will be surmounted with three statues, each 16 feet high, viz. *Nantes*, by M. INGALBERT; *Toulouse*, by M. MARQUESTE, and *Bordeaux*, by M. HUGUES. It is understood that the scaffolding will be removed from the front in about three months, and the exterior appearance of the terminus will then become known to all passers-by, but it is not expected that the connection with the Boulevard Mont Parnasse, where is the old terminus, can be completed before July.

SECTION 134 of the London Building Act decrees that "there shall be paid by the builder, or in his default by the owner or occupier, as the case may be, of the building or structure in respect whereof the same are chargeable, to every district surveyor the fees therein specified, or such other fees as may be directed by the Council." But it does not follow that payment is to be demanded from an owner after one application to a builder. This was made evident in a case which came before Mr. FORDHAM at the North London police court a few days ago. Mr. F. R. MEESON, district surveyor for North-East Hackney, having failed to obtain 1*l.* 12*s.* 6*d.* fees due in connection with a building in Windsor Road, summoned the owner for the amount. Mr. FORDHAM said that by the Act the fees were primarily to be paid by the builder, and it was only when he was in default that the provision for the payment by the owner was made. Consequently until it was proved that the builder was in default the owner could not be held to be liable. In the present instance the builder had simply been asked to pay and had refused. Mr. MEESON had at once summoned the owner without making any attempt to enforce his rights against the builder. He could not hold that simple refusal on the part of the builder was such default as absolved him from his liability and made the owner liable. If this were so no builder would ever pay as the Act evidently intended that he should. "Default" meant something more than refusal. The summons would be dismissed with 1*l.* 1*s.* costs. As, however, the question did not appear to have arisen before, and there were no decisions on the point, he would be happy to state a case if asked to do so.

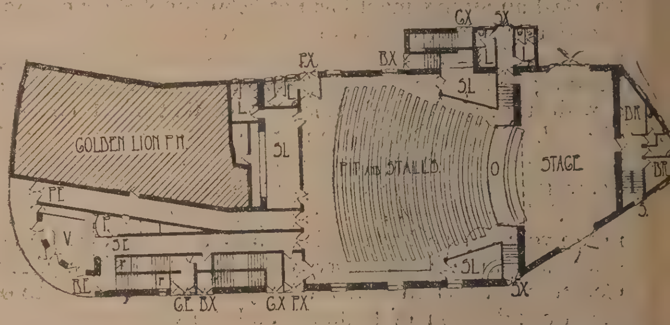
ILLUSTRATIONS.

WESTMINSTER ABBEY: FROM SOUTH TRANSEPT, LOOKING NORTH-EAST. NORTH AMBULATORY, LOOKING TOWARDS HENRY VII.'S CHAPEL. POETS' CORNER.

ENGLAND is not supposed to be a poetic nation, but London alone possesses a "Poets' Corner." COWLEY said, "These poets near our princes sleep, and in one grave the mansion keep;" but it would be wrong to suppose there was any belief in the fitness of uniting the two classes of men in a common charnel-house. As well as can be made out, the first poets who were buried in the Abbey did not owe their privilege to any admiration for their genius; it rather arose through accident. GEOFFREY CHAUCER, who was the first to hallow that part of the building, was clerk of works for a short time in the palaces of Westminster and Windsor. He was also a tenant of the abbot, for a lease exists granting to him a tenement in the garden on which the chapel of HENRY VII. is erected. In that house he died, and Dean STANLEY believes it was probably from the circumstance of his dying so close to the Abbey, and his enjoyment of royal favour as an ex-official, that he was buried at the entrance to St. Benedict's Chapel. Two hundred years afterwards EDMUND SPENSER died in the neighbouring King Street. It is believed his remains were admitted to the Abbey through the influence of the Earl of Essex, who admired his works. TOM BROWNE said "the great SPENSER keeps the entry of the church in a plain stone tomb, but his works are more glorious than all the marble and brass monuments within." BEAUMONT came next and then MICHAEL DRAYTON. BEN JONSON lived in a house which stood between the Abbey and St. Margaret's Church, and tradition says he begged the right of burial in the Abbey from CHARLES I. Afterwards, the intervals between the burials of poets was not so long, and some whose remains were interred elsewhere are commemorated by monuments or tablets. Dean STANLEY says "it would seem as if during the opening of this century the place for once had lost its charm, for of that galaxy of poets which ushered in this epoch CAMPBELL alone had achieved there both grave and monument." Opinion is now divided whether a burial in the Abbey is worth the expense, and the relatives of the late JOHN RUSKIN are admired for their resolution in carrying out his desire to be buried in a country churchyard.

THE CAMBERWELL PALACE OF VARIETIES.

THIS building, of which the auditorium measures 62 feet by 76 feet 6 inches, recently erected from the designs of Mr. ERNEST A. E. WOODROW, stands on a site which, from being completely isolated, allows of more exits than are found in any house in London of the same size. There are six direct exits into the street from the pit or area level. There are three staircases, 4 feet 6 inches wide, from the balcony, and three more of the same width from the gallery. The structure is entirely fireproof, built of bricks, concrete, and steel cantilevers embedded in concrete. There are no columns. From every seat in stalls, pit, balcony or gallery the whole width and depth of the stage can be seen. The Saracenic style was selected on account of the opportunities it afforded for colour as well as form. The tone of the ceiling is blue, relieved with a strong red. The proscenium is gold, and the drop curtain is embroidered in a blue Moorish design. The drapery to the private boxes is of a soft blue embroidered with old gold, to afford a contrast, and at the same time to harmonise with the act-drop. The carpet which covers the whole of the area floor is also of a blue tone; but to counteract the effect and to provide warmth and comfort to the eye, the whole of the chairs are of a rich red velvet, and the walls at the back of the auditorium are covered in a deep red paper. The private boxes and front part of the house have, however, been very differently treated and a specially designed Moorish paper applied. The building is warmed throughout by hot-water radiators and the ventilation assured by a sliding roof, lantern lights over the gallery, electric exhaust fans under the balcony and pit ceilings, and a large louvre ventilator over the stage. The stage is divided from the auditorium by a double asbestos curtain and iron door, and the dressing-rooms are behind the stage in a distinct block and a separate fire risk. The general contractor was Mr. C. GRAY HILL, of Coventry. The steel-work and cantilevers, which form so important a part of the construction, were carried out by Messrs. RICHARD MORELAND & SON. The fire appliances and curtain are by Messrs. MERRYWEATHER. The heating is by Messrs. CHARLES P. KINNELL & Co., and the iron roof by Messrs. H. YOUNG & Co., LIMITED.



V-VESTIBULE. PE-PIT ENTRANCE. SE-STALLS ENTRANCE. BE-BALCONY ENTRANCE. GE-GALLERY ENTRANCE. BX-BALCONY EXITS. GX-GALLERY EXIT. PX-PIT EXITS. SX-STALLS EXITS. S-STAGE DOOR. DR-DRESSING ROOMS. O-ORCHESTRA. SL-SALOONS. L-LAVATORIES. P-PAYBOXES.

THE LINEN AND WOOLLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX: THE ADMINISTRATIVE BLOCK. CENTRE PORTION OF ADMINISTRATIVE BLOCK.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

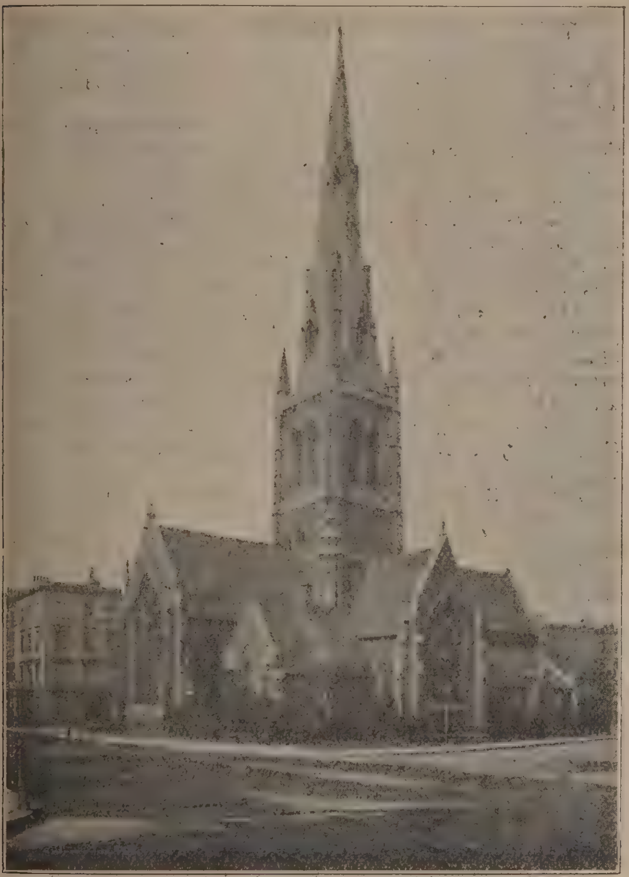
Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

The Works of O'Connor, Gibbs and Gerente.

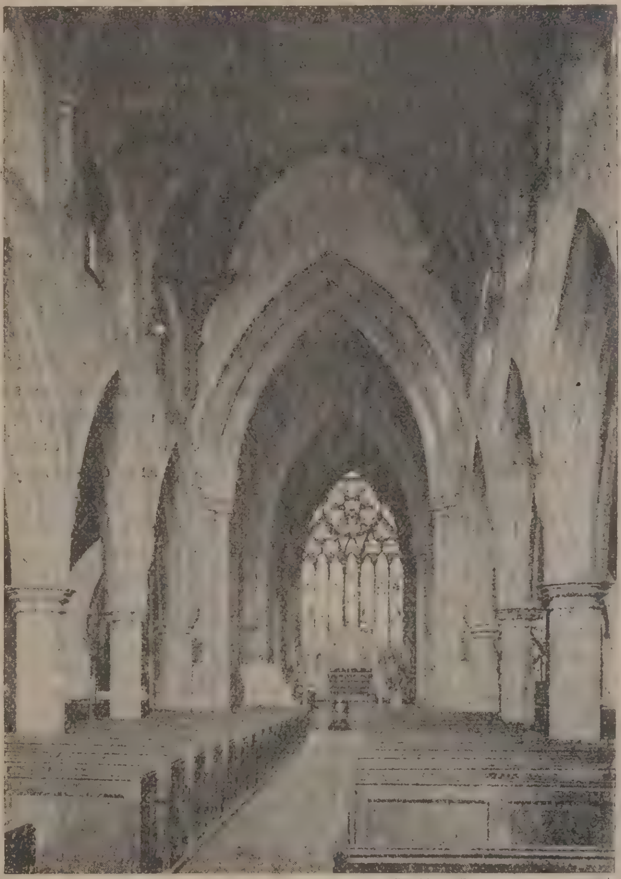
(Continued from page 50.)

OF the stained-glass executed by Gibbs during the early seventies, perhaps the most praiseworthy examples are the eastern windows of two London churches, each of which possesses considerable historical interest apart from its artistic excellence, and therefore meriting a somewhat detailed description.

The church of the Holy Trinity, Bessborough Gardens, close to Vauxhall Bridge, claims distinction on two grounds. It is the second of the three magnificent temples with which the piety and generosity of individuals enriched Westminster* within the space of ten years—the founder in this instance being Archdeacon Bentinck—and the first church built in London from the designs of the late John Loughborough Pearson, R.A.† As a typal church of the old ecclesiological form, *i.e.* that of absolute copyism, Holy Trinity holds a very high place among the productions of its phase of the Revival; indeed, it has hardly been surpassed. Unlike St. Paul's, Brighton, or St. Mary Magdalene, Munster Square, or All Saints, Margaret Street, this splendid fruit of Archdeacon Bentinck's generosity was not built under the influence of the Cambridge Camden Society, though its organ—*The Ecclesiologist*—expressed itself in terms of generous commendation; while the leading architectural journals, and that section of the public whose tastes ran in the direction of its branch of art did full justice to this graceful specimen of revived Gothic, being impressed with the conviction that its author was destined to occupy no mean place in his profession. Nor was this all. Holy Trinity secured the honour of a royal visit; an admirable engraving of it taken from the south-west appeared in the *Illustrated London News*; while two of the most distinguished architectural scholars of its day—Sir G. G. Scott and M. Didron—concurred in selecting it as the best example of a revived early fourteenth-century church which the movement had up to that period succeeded in producing.



Holy Trinity, Westminster, from the N.E.



Interior of Holy Trinity, Westminster.

Holy Trinity, Bessborough Gardens, was consecrated during the May of 1852, and as an indication of the change that took place in the ideas of its architect during the ten years succeeding its completion, a church, as typal a specimen of the original or inventive phase of the movement, was rising at the expiration of that period but a short distance from it—St. Peter's, Vauxhall, doubly remarkable as being one of the earliest London churches consistently vaulted in that brick style which subsequently became a leading characteristic of Mr. Pearson's work.

To return, however, to Holy Trinity. We should, perhaps, have missed the very beautiful and striking external group presented by the nobly proportioned tower and spire—most refreshing features in the prosaic dinginess of the church's environments, rising at the junction of the transepts with the deep chancel;* but the employment of a less developed eastern limb and the location of the choral fittings beneath the lantern would have left room for the greater expansion of the nave, whose general aspect internally is too much that of an attempt after an effect not to be attained within the given dimensions.

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* The other two being St. Stephen's, Rochester Row, the gift of the Baroness Burdett Coutts, and St. James the Less, Upper Garden Street, built and endowed by the Misses Monk in memory of their father, the Bishop of Gloucester (1830-56).

† For the photographs illustrating this paper the writer is indebted to the courtesy of Mr. Joseph Monday, organist of, and an old and valued worker at Holy Trinity Church.

* An exceedingly pretty feature in the group viewed from the north-east is the sacristy which abuts on the chancel. It is, however, inadequate to present day needs, and a space has had perforce to be curtained off at the west end of the north aisle for the choristers to vest in, an arrangement hardly conducing to the enhancement of this portion of the church's ensemble.

Such a defect is to some extent overlooked when contemplating the care and refinement which characterises much of the decorative work in this beautiful building. The groined lantern, supported on four noble arches, and open to a considerable distance above the floor level, constitutes one of the finest internal features, while the deep chancel, with its correct fittings and skilfully managed gradations, offers a very complete exhibition of the ritualism of the Prayer Book.

The dignity of the chancel would, however, have been materially enhanced had Mr. Pearson kept his east window higher up in the wall, leaving space beneath it for a reredos or dossal hangings of ample dimensions, as at St. Andrew's, Wells Street; St. Mary Magdalene's, Munster Square; and St. Matthias, Stoke Newington. As it is, the sill is brought so low down that the lower portion of the window is obscured by the reredos, a much later and not particularly felicitous addition to the church, rather French in feeling, and similar in *motif* to that placed by Mr. Pearson in his neighbouring church of St. Peter's, Vauxhall.

Of the stained-glass which fills six out of the seven lights in this east window at Holy Trinity, Westminster, it is not too much to say that it is the most successful produced by Mr. Gibbs during the late sixties. Much of its excellence is due to the confinement of each subject to one light, the clearness and distinctness with which the artist accomplished this somewhat delicate task being not the least praiseworthy feature in the design. Each light, illustrating an event in Our Lord's life, commemorates some person intimately connected with Holy Trinity, as for instance its founder, Archdeacon Bentinck, and its two first incumbents, Revs. Chas. Frederick Secretan and Wm. Reyner Cosens. The central light, representing the Crucifixion, with Our Lady and the beloved Disciple standing at the foot of the Cross, was in position at the time of the consecration of the church, the remaining lights not receiving their complement of decoration until the Christmas of 1870.

For the glass in the central light, and which is of meritorious design, Wailes was responsible. He also put the good and brilliant stained-glass in the three-light window on the south side of the sanctuary, as well as in two of those lighting the south aisle of the nave, but the latter, presenting small subjects within medallions on patterned grounds, are eminently unsatisfactory.

There is other stained-glass in this church, but little that calls for any special notice, except one compartment of a two-light window in the eastern face of the north transept, and that only on historical grounds, commemorating as it does Henry Beaumont Walmisley, first organist of Holy Trinity, and one of a family of musicians of whom the Church of England is justly proud.

The great transeptal and western windows—noble compositions of five and six lights respectively—still exclaim for vitreous decoration. The Benedicite and Te Deum, as affording a fine field for the display of the artist's abilities, might appropriately fill the two former, while the great west window, with its even number of six lights, presents an opportunity for finely treated effigies of the Apostles, with, below each, and treated predella-wise, a subject from his life. But this is anticipating. To return to actualities for a brief space. The lectern forms an interesting feature in the *instrumenta* of this fine reproduction of Edwardian Gothic. With the exception of the noble one in St. Paul's Cathedral nearly all the ancient eagle lecterns were grotesque in outline, attitude and detail, probably from the inability of the modeller to obtain a more naturalistic casting, and this type was generally adopted in the lecterns executed after the Revival, under the impression that nature herself must appear in a Gothic garb in a Gothic church.*

This view the munificent founder of Holy Trinity Church practically combated when he provided his sumptuous gift with an eagle as faithfully representing the natural bird as was possible. Here the eagle's head is attent, its body erect, its wings expanding, its plumage ruffled—all executed with admirable fidelity to the desired ideal. This eagle is, moreover, unique, being a solid mass of brass, and evincing unstinted liberality in its manufacture. But on æsthetic grounds the usual mode of hollow casting is preferable, for the extreme weightiness of the bird precluded its erection upon a pedestal of the generally accepted Gothic form of the same material; so, to secure it from overthrow it was found necessary to fix it upon a nondescript marble pillar. Such a position is detrimental to the ensemble of this fine piece of work, whose only defect is its too upright posture, rendering necessary, as at Lichfield, a supplementary shelf with the requisite slope, thus sacrificing the symbolism of this "brazen deske with God's holy Worde thereon." It may not be generally known that this lectern in Holy Trinity was first used at the funeral of the Duke of Wellington (November 18, 1852), having been lent to St. Paul's for that special occasion. Thus the earliest and latest specimens of designing *ad naturam* were somewhat singularly brought into juxtaposition.

(*To be continued.*)

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, W., Mr. G. H. Fellowes Prynne (president) in the chair.

The President said it was with regret he announced the decease of their old friend and past president, Mr. William White, who was president during the session of 1868-69. He always had the warmest enthusiasm in his work, even in the smallest details. A vote of condolence was passed to the relations and friends of Mr. White.

Another vote of condolence on the motion of the President was also passed to the relations and friends of the late John Ruskin. The President said the death of Mr. Ruskin was perhaps felt more by them as architects than by any other kind of artists. Ruskin was one of those who loved their art as an art, and he had probably in his writings done more to inspire a love of true architecture than any writer of this century.

The following were elected members:—Messrs. A. N. Campbell, J. T. Burt, T. L. Dale and J. W. S. Humphreys-Davies.

Mr. W. R. Lethaby then delivered a lecture on

Cast-Iron.

In the course of it he said:—There seems to be no doubt, from numerous references, that cast-iron was known to the Greeks and Romans, and a large use seems to have been made of it in China from an early date. It is not known whether a knowledge of how to obtain and deal with molten iron was kept up through the Middle Ages in any part of Europe; the lack of evidence till the fifteenth century suggests rather that it was then reinvented. In all districts where iron was reduced from the ore the iron in the furnaces approached the melting point, but until the blast furnace was discovered the heat was insufficient to cause liquefaction. Analogy with silver, bronze and lead, which were all readily cast, must always have kept the idea of casting iron in the minds of metal-workers

Small objects in bronze were cast here in England from time immemorial; large bells were cast in the twelfth century and beautiful full-size figures were cast in bronze in the thirteenth century. An approximation to casting iron was made in the stamping of small details while the iron was red-hot into swages or moulds. A beautiful example of this kind of work belonging to the thirteenth century is offered by the grille of the Eleanor tomb at Westminster, but a door at Windsor has ironwork of this kind in it which is probably thirty or forty years earlier. This ironwork is particularly interesting, as (and I have never seen this pointed out) several seal-like forms have the name Gilbertus stamped on them. This work looks earlier than the Westminster example, and the chapel of Henry III., of which the door was the west entrance, was completed about 1250. It has been suggested that the running of iron into moulds was most desirable for the making of cannon balls, and we know that cannon were already part of war equipment from early in the fourteenth century. Lead shot were at first used, and later, as we know, cast-iron. I cannot but think that swaging the balls into shape must have formed an intermediate link

Dr. Percy, who wrote on the metallurgy of iron, came to the conclusion that Mediæval casting in iron was first practised in Prussia. Mr. Starkie Gardner, in an excellent paper in "Archæologia" (1898), the best illustrated and most recent contribution to the subject argues for its origin in the Weald of Sussex and Kent. The contention, however, is I think not proven Many Gothic examples of cast-iron stoves and grave slabs still exist in Germany. One elaborate stove front having figures within cusped panels, a far more important piece than anything in England, was illustrated in the text of the *Builder* some years ago by Mr. Brewer, and dated by him 1502. A fire-back at Bruges, dated 1565, of which there is a cast at South Kensington Museum, is a very beautiful design of two figures cast from a model by a first-rate artist. This, again, as a work of art goes far beyond anything we can show. The work on which the supposition of an early use of cast-iron in England is in the main founded is the grave slab of Jhone Colins at Burwash Church in Sussex. It is a flat slab with a small cross with leafy extremities, and the inscription is in poor lettering of Lombardic characters. I certainly have been inclined to put this down to the fourteenth century, but the fact that it would then stand alone the earliest casting in England, and probably in Europe, should put us on our guard Mr Starkie Gardner says its claim to be the oldest specimen of Mediæval cast-iron existing is not disputed, and that it appears to afford sure ground for the belief that the art of iron casting was invented in Sussex. The statement by Percy that Siegen in Prussia was the seat of the discovery, although casting was not practised there until the fifteenth century, has passed unchallenged, but Mr. Gardner thinks it probably contrary to fact. Mr. Gardner goes on to remark very properly that we can hardly suppose casting in iron was invented for the purpose of casting grave slabs, whereas a real and urgent need for castings in iron arose upon the introduction of cannon. Cannon are known to have been used in England from early in the fourteenth century. One exists which is said to be "at least as old as the early part of the fifteenth century," the interior chamber of which is of cast-iron. Now the making of war engines was at this time much developed in Germany, and I should expect iron cannon to have been first made there, where indeed it is said they were in use early in the fifteenth century.

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* The ambiguous character of many of the eagle lecterns produced since the Gothic Revival has given rise to not a few diverting anecdotes. One is that of the old Herefordshire dame who, on being asked her experiences of the service to which she was taken, at the magnificent church built by Woodyer for Sir Frederick Gore Ouseley at Tenbury, replied, "O yes, I got a good seat; right up anuns the turkey!"

In Stow's "Annals," under the year 1543 and the heading "First Iron Pieces Cast," he writes:—"King Henry, minding wars with France, made great preparation and provision as well of munitions and artillery, as also of brass ordnance, amongst the which at that time by one Peter Bawd, a Frenchman, a gun-founder or maker of great ordnance, and one other alien called Peter van Collen, a gunsmith, both the king's feed men, who, conferring together, devised and caused to be made certain mortar-pieces, being at the mouth from 11 to 19 inches wide, for the use whereof the said Peter and Peter caused to be made certain hollow shot of cast-iron to be stuffed with firework or wild fire . . . for to break in pieces the said shot, whereof the smallest piece hitting any man would kill or spoil him. And after the said king's return from Boulogne the said Peter Bawd, by himself, in the first of Edward VI., did also make certain ordnance of cast-iron of divers sorts and forms . . . Unto this Bawd, John Johnson, his covenant servant, surviving his master, did likewise make and cast iron ordnance, cleaner and to better perfection, to the great use of this land His son, Thomas Johnson, is yet living, a special workman; in the year 1595 he made forty-two cast pieces of great ordnance of iron for the Earl of Cumberland Dimi cannons weighed three tons apiece." Even cast-brass cannons were not made here, Stow says, till 1535, when John Owen began to make brass ordnance; he was the first Englishman, Stow adds, that ever made that kind of artillery in England The actual founder of the cast-iron pieces appears to have been Rafe Hogg Holinshed says, "This year (1543) the first cast pieces of iron that were ever made in England were made in Bucker-steed in Sussex by Rafe Hoge and Peter Bawd" Now we cannot traverse such direct and ample evidence as that for the introduction of casting for artillery, and I cannot think there is evidence enough to allow of our supposing that the grave slab of Burwash is any earlier, especially as a family of Collings, ironfounders, lived in the adjacent parish of Brightling Mr Gardner, indeed, suggests that the identity of Van Cullen himself, who made the hollow cast-shot in 1543, became merged with the Collings. Returning to the grave slab itself, with the preponderating evidence that it can hardly be earlier than about 1545, and comparing it with several late Gothic fire-backs, it seems to me that there is every reason to assign it to this period The letters on the slab are not good Lombardic characters, and such letters were used by bell-founders to a comparatively late date. Indeed, it is quite possible that they were part of an old stock used just as we find Tudor decorations surviving for several generations on other castings The art of decorating the earliest of these grave slabs and fire-backs is strictly analogous to that used by the bellfounder, by which separate devices and letters were impressed one by one into the yielding sand-mould

Mr. Gardner notes this, and calling it a primitive process says the fire-backs decorated by this simple means afford distinct evidence that the art of iron casting originated in the Weald and developed step by step there, and was not transplanted as a perfected art from abroad. When a sufficient number of backs are grouped together, he says they exhibit an evolution from simple to complex. That, of course, is so if you put the rude ones first; but there is nothing to justify this, and the simple elements of cable border and crossed pieces of cable used in the rudest examples occur again and again in ones which are shown by arms and other devices to be of late Tudor work. The earliest actually dated are two of 1582. One, indeed, in the Lewes Museum bears the date 1550, but the design is much more like work of 1650, and I came to the conclusion in examining it that the date had been tampered with. This, if my memory serves me right, is quite evident, and I even have a suspicion that this is a Dutch back after all.

The earliest date known in France is 1548. Altogether, then, I conclude that the evidence is in favour of the standard theory that casting iron was invented in Germany.

One of the most assuredly Gothic pieces of decoration in these backs is a vine-trail along the top of one in a farmhouse at Buxtead, but the field of this same back is occupied by the crowned rose of Queen Elizabeth, and her initials E. R., and even this last was old stock, for it is cast not in relief but in matrix and reversed. An example decorated with strips of vine and birds, now on loan at South Kensington, is probably the most beautiful of all, and apparently in style one of the earliest, yet the very same pattern of parallel vertical strips of vine is found on the grave slab of Anne Forster at Crowhurst, which is dated 1591. Another early fire-back at Crowhurst displaying the crowned Royal arms with supporters probably belongs to this same period, 1570 to 1590 Mr. Horsley at Cranbrook had an example of a different type, in which the pattern was formed by circles of tracery, but very shallow and poor, and probably no earlier.

The archæology of the subject stands thus. The earliest fire-backs appear to be Elizabethan. The earliest grave slabs which can be dated belong to the same period, but the ornamentation of one example looks earlier. Even if the early design of this were proved, however, it is quite easy to account for by the methods of the old founders in using up old ornaments.

Finally, for cannon, which we might suppose would be the earliest things put into cast-iron, we have the most positive evidence that that was first done in 1543. In this regard I have myself to make a recantation for having spoken of the beautiful fourteenth-century statue of St. George in the Palace court at Prague as cast-iron. Years after having said so, on some insufficient authority, I found myself able to go and look for myself, and found it to be in fine green-patinaed bronze.

I feel some satisfaction in its being established that the use of ornamented cast-iron was made by Gothic craftsmen—a reaction which followed Pugin's vital proclamation of principle denounced the use of such materials as plaster, cast-iron and whitewash, whereas a true application of true principles would only arraign their misuse fraudulently and thoughtlessly. The true principles of an organic art would proclaim that no material and no method is in itself outcast from the field of art, be it iron or lead or plaster, graining or veneering or casting, or anything else. Iron itself, whether wrought or cast, seems to me one of the noblest of materials. There is nothing mean in the ideas suggested by the iron pillar of Delhi or the iron crown of Lombardy, or in the myth of Mahomet's coffin sustained in mid air by loadstones.

In the composite image interpreted by Daniel iron stood for power—"Strong as iron, forasmuch as iron breaketh in pieces and subdueth all things." Dante also refers to its strength, and in Chaucer's "Temple of Mars"—

> Every pillar the temple to sustain
> Was ton great of iron, bright and shene.

A material in which the poets can design to such effect as that is worthy of the best skill of the artist and craftsman. Such notices as we have of the use of cast-iron by the ancients refer to its use for statues. Pliny speaks of a Hercules as being made in this appropriate material. Some quite pleasant works of a secondary order of sculpture were cast in iron a generation or two since—sleeping hounds for gate piers, and that sort of thing. The grave slabs spoken of are no mere curiosities; rough and simple, they are dignified and serious works of art. Fixed flush with the floor, the walking over them is just sufficient to give them a pleasant texture. It seems to me that this use of castings is most appropriate. A comparatively plain slab, with just a little meandering border and the field fretted all over with nicely drawn lettering, should make an excellent memorial for if we do not continue to bury within our churches their floors might surely still receive memorials. In Switzerland arms and medallions nicely modelled in flat relief and cast in iron were quite recently set in flat gravestones.

Fire dogs have also been made from Mediæval days. A great number of simple Gothic examples exist in France, and some quite reasonable and pleasant forms continued to be manufactured in England down to the beginning of this century. We cannot have art of any sort without having thoughts to put into it, but if we had the thoughts the material—cast-iron—is well enough fitted to receive them. The later fire-backs are often delightful examples of little stories told by the fireside. The actual achievement of these as sculpture, from an academic sculptor's point of view, is often ludicrously inadequate. But they all have that honest touch of a real motive, some reference to a pleasant object or scene, and however great their simplicity they show an instinct for balance and fitness without forcing of the material or obtrusive display. As to these motives we have arms and devices and inscriptions, animals, soldiers and historical personages. There are scripture scenes of Abraham and Isaac, David and Goliath, Solomon and the Queen of Sheba, the Woman at the Well, the Annunciation and Michael casting Satan out. There are Venuses and Dianas and Neptunes, Irises and Fortunes, Hercules and the Lion, Juno in her peacock-drawn chariot, Vulcan in his smithy. There are allegories of Time, Hope, Peace, and Fame. There are early birds getting worms, and Æsop's fables. Some have subjects like a girl with a bird on finger, a cavalier and a lady on either side of a fruit tree

Mr. Ruskin, with that insight which made him refuse to talk about the fringe of a subject, saw clearly when everybody was clapping their hands over the Crystal Palace that the finding and founding of iron is not one of the radically nobler employments as stone-hewing and setting is, or the felling and framing of timber. I would echo every word he said. But while we use iron in some degree, while we even need iron, while even it may grow into wider necessary use, I want to say let us lend what grace we may to it, so that if obtained with cost, the greatest of all cost, an unkindly labour, it may not be misspent and more than spoilt. For in all these things it is human life we spend, for there is really no other currency.

Cast-iron was largely used in the pleasant and refined manner of building of the eighteenth century In the great area from Paddington to Pimlico and Bloomsbury to Bayswater there are an infinite number of examples of a quiet and charming taste—railings, balconies, verandahs, with graceful posts and panels of delicate lattice, or inside the house the grates and stair balustrades were just as good The railings begin with the very fine design of the enclosure to St Paul's, great baluster-shaped forms of beautiful profile, the railings at St. Martin's-in-the-Fields following the same model, and there is a late example in Bloomsbury Square, where large rounded posts of this kind are used occasionally between straight uprights The balcony railings are very light—a network of lattice. For perfect fitness, a natural and unashamed treatment of casting in iron, they could not be bettered. We never think of comparing them with wrought-iron to their disadvantage; both are excellent in differen categories, whereas modern castings do invite comparison with wrought-iron by an infinitely careful ingenuity of pattern-making, emulating just those qualities in which to succeed is only the most of all to fail, for not the line, as in wrought-work, the bent rod in scrolls, but the plate, plain or pierced, is the primary fact in design for casting.

I want to make clear that these notes are not written with a wish to widen the application of iron, or to prove that cast-iron is superior to other materials Each material is the best, and our use of iron castings is sufficient, indeed excessive in all probability. The claim I make is that if we use cast-iron we should try not to make it do more than the limitations of the material allow The ornament should be a surface decoration of a general simple structural form Repetition is of the very nature of cast work, and the repetition of a few simple elements in different combinations made great actual variety possible in old fire-backs.

As to surface, rust is, without any doubt, the natural treatment, and we might well let nature have it so on occasion Let us suppose a relief, good in design, slight in finish, of the best iron, and absolutely untouched from the mould; put up under some simple pent, it will gradually acquire colour and texture —too much of both, you think, but I am not sure. Remember, first of all, how frightened we are of beauty; and that natural colour and naturally acquired texture are the very adornments to beauty herself. Decay is really much less than we suppose; especially on large rounded surfaces, and with even a small but constant amount of friction the metal keeps free of rust, or probably acquires a weather skin. Internal work like the finely designed gratings in Kensington Museum become quite polished with ordinary wear.

Electro-bronzing is another available method of which the French make use, and the dogs at Kensington are examples. We find it possible to get Japanese workmen here to furnish out a shilling show. Would it not be possible to get one or two to instruct us in their processes in iron working, and especially in finishing and colouring the surfaces?

By way of moral I will sum up thus:—(1) In designing we should give up attempts at the artistic—it is apt to miss fire; the thing to aim at is an elegant kind of engineering, straight to the point, simple and honest. (2) The forms, either solid or flat, should be homogeneous, and approximate to a cylinder or a flat panel or lattice Where modelling is applied there should be a good space of level field, as in a coin, and the modelling, so far as possible like a coin, should be of equal weight throughout. (3) We want exactly tabulated information as to how castings simply treated behave when exposed to the weather. We should aim at leaving the castings untouched from the mould; the Japanese in delicate kettles and the like leave the seams on; we should do the same with our bigger objects. We want to proclaim the casting, not to disguise it. (4) We should give up painting external objects Indian red, the worst of all colours. Black, white or grey or green are the best colours. (5) We should try to learn how the surfaces of Japanese castings are treated.

Mr. L. A. Shuffrey referred to several examples of cast-iron in London, and advocated the employment of wrought and cast-iron in combination.

Mr. Longden exhibited several Sussex fire-backs. He advised that no very great variations in thickness should be adopted in any casting, as unequal shrinking would take place. Undercutting should also be avoided.

Mr. R. Moreland said:—It is unlikely that cast-iron will be superseded for the bulk of the objects for which it is now used owing to the ease by which it can be cast into any required shape. In designing castings care must always be taken to avoid sharp and abrupt variations in the thickness of the various portions lest the casting on cooling may contract unequally, and with unequal rapidity, and so fracture or produce internal straining The longer the time allowed for cooling the better and tougher will be the casting; slow cooling allows the gradual crystallisation of the iron, and, besides, becomes a method for annealing. The association of carbon with iron is so constant, and the affinity of iron for carbon so great, that all iron is found to contain carbon, the limit of saturation being about 5 per cent., and the method of smelting the iron produces this effect. Cast-iron is the crude metal derived from the crucible or blast furnace. The iron ore, the fuel and the flux are thrown into the furnace together, and subjected to an intense heat by forcing a number of jets of hot air under pressure, and the products are the gases which emerge, the slag or glassy matter produced by the combination of the flux with the earthy materials of the ore, and the crude pig-iron which falls to the bottom of the furnace by its own gravity, and is then run into pig-iron moulds. In some cases different kinds of pig-iron are produced from the same ore in the same furnace under different circumstances as to temperature and quality of fuel, so the pig-iron is a compound of iron and carbon, either mixed or unmixed with a small quantity of uncombined carbon as a mechanical mixture. Ordinary castings are made of the soft grey iron which yields easily to the file and can be machined to any required surface Cast-iron when fractured has a white and radiated appearance, showing a crystallised structure, and is very brittle and hard. Between these there are varieties of cast-iron having various shades of the qualities of each, and those are best which approach the grey cast-iron. Cast-iron when it fails gives little or no warning of its approaching fracture, which is its chief defect. The strength of cast-iron principally depends on the absence of impurities derived from the ore and the fuel from whence it is produced. Remelting within certain limits increases the strength and density of cast-iron, the specific gravity increasing with successive meltings up to a certain number, and it is found that one of the best tests of the quality of cast-iron is its specific gravity. An exceedingly hard and impenetrable skin may be produced on the surface of castings which are termed "chilled iron castings;" they are used for a variety of purposes, such as rolls for rolling metals cold, various and special portions of machines, and for chilled shot, and formerly for hardening the interior of guns. The hardened skin may have a thickness from $\frac{1}{8}$ inch to 1 inch in thickness, or it may be made to penetrate and crystallise and harden the whole casting throughout. It consists in lining the mould where the hardened surface is required with suitable iron moulds The molten metal in being cast and run in is suddenly cooled and solidified where it touches the cold mould, the chilled surface taking the white granular crystallised condition, while the remainder of the casting is in the grey-iron condition. Another interesting form of cast-iron is that of malleable iron, whereby the castings, of whatever form or shape they may be, are rendered ductile, and may be hammered and bent to a certain degree. The tensile strength is increased to 15 20 tons per square inch. The malleable iron is formed by subjecting castings to a decarbonising process by packing them in a bath of powdered iron ore containing a large proportion of oxygen, such as hæmatite ore or iron forge scale, in an annealing oven for a period varying with the size and form of the casting. Thus arises a molecular interchange of the oxygen in the bath with the carbon in the iron. The oxygen of the oxide of iron in the bath associates itself with the carbon by a process interaction the carbon is gradually removed from the outer layer of the metal and slowly passed from particle to particle through the solid metal or bar until the surface is reached, where it is oxidised at the expense of the oxide of the bath, and the result is the production of an iron poor in carbon, due to an alteration and interchange of its structure and material. It may be here remarked that when bar iron is heated sufficiently long in a bath of powdered carbon, it, the bar iron, will take up carbon in a similar manner and become what is known as blister steel, in which the interchange is carried on as the reverse of that in the production of malleable iron. The most important invention producing a fresh epoch was that by Sir Henry Bessemer, who invented a process whereby the carbon and silicon, as well as other impurities, were burnt and carried away as gaseous products out of the molten pig-iron, and the resultant was the production of a molten mass of cast-steel, which was then cast into an ingot. The cast-iron being deprived of its carbon and other matters is brought into a malleable condition. The oxygen of the air blast combines with the carbon in the iron and thus liberates it. The ingots being cast into moulds can then be rolled or hammered into any desired shape or form. All gradations of metal can now be procured, for after all the carbon, &c., are burnt out, the pure iron left in the crucible is treated with a special dose of prepared carbon and other ingredients, which are added to the molten mass, and so the material can be produced of any desired quality, hardness, ductility and tensile strength which may be desired and glacified, according to the various methods adopted in the manufacture of the steel.

Mr. Beresford Pite proposed a vote of thanks to Messrs. Lethaby, L. A. Shuffrey, Longden and R. Moreland, which was seconded by Mr. Leonard Stokes and supported by the President and Messrs. W. J. N. Millard, H. C. Eyres, W. H. Seth-Smith and E. Herbert.

It was announced that at the next meeting on February 9, a paper would be read by Mr. Thomas Blashill on "Working-class Dwellings in Blocks."

LEGAL TOPICS.*

THERE is a proverb which is somewhat uncomplimentary to the man who acts as his own lawyer.

I venture to think, however, that a knowledge of the law may be of considerable use to a layman in preventing him, when he is on the edge of a legal precipice, from acting as his own lawyer and in helping him to act wisely when his solicitor has left his office and gone home. For solicitors sometimes dine and have a home circle which cherishes them; nor can they, like doctors, be rung up at any hour of the night.

The man who would conceive and plan the buildings which act as the temples of our commerce or the nucleus of our home life, or form the outward expression of our religious devotion, meets with many difficulties. There are the brute forces of nature, the wind which makes his Tudor chimneys smoke or, still worse, blows them down, or the frost which lays its injunction on him during the winter. Worse still, there are jealous neighbours who allege that he is encroaching on their fields, or wrongfully leaning against their buildings or darkening their ancient lights. Then he may have to keep a wary eye on the builder to see that the building contract is duly carried out.

Again, there are the local authorities, armed by Parliament with extensive powers in the hope that they will use them wisely. Trustees of the public eye whose delicate, artistic sense requires a symmetrical street, these authorities, like some drill sergeant, say to the houses "Fall in" (a command not to be taken too literally). Trustees of the public lungs and legs, they preserve our open spaces from encroachments, and our streets and highways from obstructions. And not only this, but with tender solicitude the legislature has commissioned the local authorities to watch over the health and safety of the inmates of the buildings which you intend to erect or to rebuild. It is with these powers of local authorities that I propose to deal to-night. The law I wish to lay down must, however, be taken with this qualification—that it does not necessarily apply to the Metropolis or to Scotland.

The statutes with which we have to do speak of "buildings" and of "houses," and it would be well at the outset to ascertain what these words mean. In construing a word you must take it in its ordinary and popular sense, unless you gather from a perusal of the whole Act that it is to be otherwise understood. Further, so far as possible without straining the language of the Act, you must carry out its intention. This intention must be gathered from the words of the statute itself, the whole of it being duly considered.

First, as to "building."

This word occurs in two kinds of provisions, and its meaning varies according to which of these two kinds of provision contains it. It occurs in provisions for the benefit of the public generally and in provisions for the health and safety of inmates of buildings. I must emphasise the chameleon-like nature of this and, indeed, of all words. It is of little use to search through cases as to inspecting dilapidations or as to voters' qualifications in order to ascertain the meaning of this word.

In provisions for the benefit of the public the word "building" must be taken to include any structure whatever its material, if it be only large enough and be intended to be permanent; thus, a wall 15 feet high is a "building" in breach of an obligation not to build within so many feet of the footpath, and a huge wooden trellis is a breach of a covenant against putting a "building" in a yard. If the size, however, is not great, the erection will not be a "building," *e.g.* a small conservatory 4½ feet by 2½ feet was permitted to project in front of the line of buildings and in another case a small railing, and it was held that a wall 8 feet high was not a breach of covenant against building within so many feet of the footpath, as it was about the height that would be necessary to secure privacy against pedestrians. I have quoted several cases of covenants, but the principle is the same. As to the necessity for permanence the case as to the huge wooden trellis above alluded to may with advantage be examined. Common sense tells us that in order to carry out the purposes of these restrictive covenants or of statues forbidding "buildings" in certain places a wall must be included, for it would be almost as objectionable if it broke the vista of our streets or encroached on our public parks or on our highways as would any other building.

Very different, however, is the meaning of the word "building" when it is found in provisions for the health and safety of inmates. A "building" in these provisions requires size and permanence as it did in the former class of provisions, and thus your builder's shanty intended to be removed when the new terrace you are putting up is completed does not come under the term "building." One other ingredient, however, is requisite, and that is capacity. To use more homely language, it must be something a man could get into and move about in, and must have a roof to shelter him. But if these ingredients are present it matters not that it is uninhabitable. It may have no fireplace, no chimneys and no foundation. It may be of any material. It may have wheels, if it is used for the purposes that buildings are used for. Thus night houses for cattle and coachhouses have been held to be "buildings" for the purpose of these provisions, but not a boiler standing on a base of bricks 4 feet high. A judge has decided that a dog-kennel, a birdcage and a wig box do not come under the category of "buildings" in this connection. You may, therefore, if you so wish, design these without fear of the Public Health Acts.

Next, as to the meaning of the word "house."

We are only concerned with the meaning of the word when it occurs in provisions for the benefit of inmates. It requires the three ingredients of size, permanence and capacity mentioned above, but adds to them one other—that is, habitability, though this ingredient may be absent if the word comes under the interpretation clause mentioned below. Thus it includes an unconsecrated chapel which was inhabited by a caretaker, and the whole of which could have been inhabited without any structural alterations; conversely nothing that is uninhabitable unless it comes under the interpretation clause can be a "house." This lack of habitability may arise from two causes—from structural defect in the absence of such things as a fireplace windows or doors, or from the legal bar to using the structure for purposes of habitation, which results from consecration, as in the case of a church which has been held not to be a "house" in this connection. Thus we must exclude such opposites as a cowhouse and a church. We must, however, in accordance with the interpretation clause of the Public Health Act, as modified by later Acts, include "schools, factories and buildings where persons are employed." Thus, taking what I may call the common law and the statutory definitions together, you might, I think, include schools, factories, offices, shops, warehouses, theatres and all premises where a caretaker sleeps.

When the word "dwelling-house" is found in the Acts we deal with it seems to mean a house of which the main purpose is residence. The mere fact that a caretaker resides on premises such as a chapel or warehouse would not of itself be sufficient to make them a "dwelling-house."

Before leaving this part of my subject, I may mention that the interpretation of the meaning of words contained in a statute is a matter of law, but the question as to whether any particular subject matter with which you may have to deal comes within the definition of any word so interpreted is a question of fact.

Your first question in considering the rules which I desire to lay down will be "What am I building?" Some of the provisions that we shall consider apply, as we have seen, to "buildings" in the most comprehensive sense, others to "buildings" in the narrower sense, excluding, as I may remind you, anything without a roof; others apply to "houses" and all the other premises by judicial decision or by interpretation clause comprised in that word. Others again apply to particular kinds of premises, to dwelling-houses, to common lodgings, to cellar dwellings, to factories and workshops, to bakehouses, to dairies, or to schools.

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* A paper read at a sessional meeting of the Northern Architectural Association on January 17, by Mr. Algernon Barker, B.A., barrister at law, of Newcastle.

Another question in considering the rules hereafter mentioned will be "Where am I building? Is it in the crowded town or the divine country?" Or to be more practical, Is it within the jurisdiction of an urban or a rural district council? Much will depend on the answer to this question, so widely do the powers of these councils differ.

The difference between the town or a city council and an urban district council is not great. The dignity, and shall I say the poetry of the former may be wanting to the latter, but so far as the provisions which affect the man who builds are concerned there is little or no real difference. Very different, however, are the powers of an urban district council from those of its humbler rural brother.

An urban district council can by the Public Health Act set back a building whose front you are completely restoring, and can under another statute punish you for building beyond the house on either side of you. It can prevent you from building upon its sewers or under its carriageways. It can forbid you to build a house without a drain. Then, again, by adopting the Public Health Act Amendment Act it can gain further exclusive powers. It can forbid a room over a cesspool, ashpit, or privy, to be inhabited. It can permit you to substitute an ashtub for the ashpit, it can see to the substantial construction of and sufficient ingress into and egress from places of public resort, and also to the safety of grand stands and the like. Again, an urban council has power to make the by-laws authorised by section 157 of the Public Health Act of 1875, and if the Public Health Act Amendment Act is adopted, it can make by-laws as to paving of yards and open spaces round dwelling-houses, and as to providing of secondary means of access to ashpits and the like for the purpose of removing house refuse.

The country cousin has none of these powers unless he obtains them from the Local Government Board. One luxury, however, the rural district council has all to itself. By the Public Health (Water) Act, section 6, it can punish the man who builds a "dwelling-house" without first obtaining a certificate that there is a water-supply at a reasonable distance from it. Here again, however, the Local Government Board may step in and give this power to an urban authority at their request.

A second time, again, it will be well to ask yourselves "Where and under what statutes am I building? Has the Council adopted the Public Health Act Amendment Act? Is there any local Act or by-laws that may have a word to say to me? Who am I building for? Is there a special Act or special powers or restrictions in any Act which may enlarge or curtail my liberty?"

There are the public general statutes, such as the Public Health Act, 1875, the Public Health (Water) Act, 1878, the Public Health (Buildings in Streets) Act, 1888, the Factory Acts, the Chimney-Sweepers' Act of 1840, and the numerous Acts as to town gardens, commons and open spaces.

Then we may have to deal with an adoptive Act, the Public Health Act Amendment Act, which until it is adopted by a district has no more force of law in any district than some incipient Bill in Parliament. With the formalities precedent to adoption I will not trouble you. The urban council cannot pick and choose which of the sanitary provisions in Part III. of the Amendment Act they will adopt. They must take all or none. Rural councils stand in the same position as to those provisions which they can adopt without leave of the Local Government Board; but where they need this leave they do gain a power of choice, as the Local Government Board only gives them such powers as they ask for.

Then there may be the local Acts, and the contents of these are so various that I cannot deal with them at present. They must, however, be carefully read, as they may, with regard to the place in which you are building, utterly upset any of the law laid down in this paper. I cannot too strongly emphasise this fact. In these local Acts are usually incorporated the whole or parts of the Towns Improvements Clauses Act.

Then, again, there may be by-laws which we shall consider later on. Or, again, the Education Code for the time being, which has the force of law, may have much to say to the architect who is building a Board school, and the Education Acts may enable him to defy the Public Health Act or similar Acts in certain respects. Or, if you are building for a railway company, there will be the special Acts laying down, it may be, further restrictions, or enabling you to escape from those which apply to buildings in general. I will not enter into the questions which arise when these Acts, or when sections of Acts, or when a by-law and a statute seem to conflict. I hope to consider this matter more fully in a pamphlet which I propose to publish.

And now we proceed to consider the provisions themselves.

I have been forced to use this word "provisions," redolent though it is of the great restaurant over which we are seated to-night, as I have been unable to find a word which is at once so comprehensive and so little calculated to mislead.

The first class of negative provision for the benefit of the public is that which regulates the vista of our streets, either in accordance with a "prescribed line" under the Public Health Act or through a "governing building" (a term which I will explain) under the Public Health (Buildings in Streets) Act.

These methods differ in several important respects. The first deals only with "buildings or the fronts thereof taken down to be rebuilt or altered," and not to buildings being erected where none stood before. The second deals with new buildings or new additions in front of or new additions on the top of old buildings.

In the first the line of buildings is the general line of all the houses in the same street, but depends for its very existence on its being prescribed by the urban authority. In the second it is not the general line of buildings at all which regulates, but merely the most backward next-door neighbour called the "governing house," no prescribing being necessary, but consent to build forward being required.

The first, the prescribing method, gives compensation and exacts no penalty, but is enforceable by the ordinary methods of injunction and indictment. The second exacts a penalty which can only be recovered before justices of the peace. In the case of the prescribing method an offending building must be pulled down by the defendant if the High Court make an order to that effect. In the second the building which projects beyond its most backward neighbour cannot be pulled down at all.

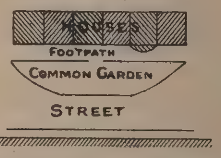
To consider the first or "prescribing" method under section 155 of the Public Health Act, 1875. This enacts that "where any building or the front thereof in any street has been taken down to be rebuilt or altered the urban authority may prescribe the line in which" its successor "in the same situation" is to stand, and the successor (as I may call it) shall be erected in accordance with such prescription. Compensation is to be paid or tendered to the owner, the amount to be ascertained if necessary by arbitration in the usual manner. Short though this section is, almost every word of it has been a text for judicial interpretation and a cause of innumerable disputes.

You may ask, "Is my structure a 'building' so as to be set back?" The answer is, "Even if your structure were only a wall 15 feet high or a cowhouse, back it must go if it is large enough and intended to be permanent.

Then, again, you may question whether it is in a "street" for the purposes of this section of the Act. Well, if there are houses more or less continuous along one or both sides of your road, and that road is used for public carriage traffic, it is a "street." Thus Claremont Road is a "street," though on one side stretches our breezy town moor. A mere foot passage with houses on either side, such as we see in Durham or in our other quaint old cathedral towns, will not be a "street," and I think, though the matter has not been clearly decided, that the road must be one which has been dedicated to the public, *i.e.* a public carriageway. My reason for this opinion is that the provisions as to building line are provisions for the benefit of the public, and therefore the authority would seem to have as little right to regulate the vista of a private street as it has to choose the pattern of your drawing-room carpet.

One more question. Suppose that, as shown in our first diagram, in front of your terrace lies a footway, and in front of the footway a common garden extending the whole length of the terrace, will the terrace be in the street? On the whole I am inclined to think, having regard to decided cases, that this will depend on what openings there are from the common garden into the street, and also as to whether or not the footway is public; the more nearly the terrace with common garden is assimilated to the ordinary case of houses with separate gardens opening into the street, the more likely is such terrace to be held to be in the street. An increase of the accessibility of the common garden into the street would have this effect.

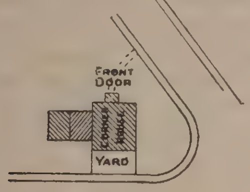
I "IN THE STREET"



Another question, however, which has been decided by numerous cases may arise for your consideration. You are engaged on a charming building, the corner house, which enjoys the barrel organs of both streets (the old house before it was demolished is shown on our second diagram); one street, the aristocratic street, used to boast of the front door, while the other street was for the milkman and the butcher's boy. Is the corner house in the latter street also? There is no doubt that it can be and probably is, but this will be to some extent a question of fact.

Then, again, what is the meaning of "taken down in order to be rebuilt and altered?" It means substantially taken down. A case which may be useful in explaining this is the case of the Attorney-General *v.* Hatch. In this case the owner of a baker's shop which projected beyond the building line wished to turn it into a grand two-storey-windowed milliner's shop. He accordingly took out the fronts of the ground and first floors, but left undisturbed the second storey, shoring it up first with wooden beams and later with iron girders. The urban authority came with their compensation money in their hands, but the owner was not to be tempted, so an action was commenced against him. In this it was held that in order to bring a building under the provisions as to the prescribed line the front of such building must have been completely pulled down (that is, as far as the foundations), though a few bricks of the front left standing would not save the owner. Conversely, in another case it was held that a building whose front was left up as far as the first floor cannot be prescribed for, as its front has not been pulled down.

II. "IN THE STREET"



Now you have heard these cases, I think a word to the wise will be enough. If you want to keep your own position in a street do not be in too great a hurry to pull down your building. Supposing you have an ugly yellow brick house which is fast going to decay, but which, on account of its forward position, commands an interesting view up and down the street and covers valuable ground. You wish to turn this into a "marble hall." You can, if you like, pull down the front all at once, in which case you will lose your position in the street. Or you can pull out the bottom part of the front and put in your marble, meanwhile shoring up the higher storeys, then restore the higher storeys until the whole building has a new front, or you may begin on the top storeys. A local authority who tried to fix you with a prescribed line would be in this dilemma. You could always say, "I have not pulled it down, it is too early to prescribe," and also at the same time, "I have begun to build it up, it is too late to prescribe" Another question. Suppose you have two semi-detached houses and pull the front of one down, have you pulled down a whole front or only half a front? Well, if the houses were separately occupied and had no internal means of communication you have pulled down a whole front, and the authority may prescribe for the front that you pull down.

But if you have pulled down the front wall of your house it will not avail you that you have left the rest of the building standing. Suppose, however, that you have pulled down the whole front, extending, say, a foot back, can the authority prescribe a line a yard back? No, I think, certainly not Their line cannot go back further than the site you have vacated.

(*To be concluded.*)

BIRMINGHAM ARCHÆOLOGICAL SOCIETY.

THE annual meeting of the Birmingham Archæological Society was held on the 24th ult., in the council-room at the Birmingham and Midland Institute. Mr. J. A. Cossins presided, and there was a large attendance, among those present being Councillor Martineau, Dr. Wright Wilson, Rev. A. Chattaway, Messrs. H. C. Pinsent, C. J. Hart, A. Hayes (secretary), W. Doubleday, Lloyd Owen, B. Walker, W. Churchill, J. Lewis, J. Bickerton Williams, A. Derrington, W. H Robinson, &c.

The report of the committee stated that the work done during the past year had been of a useful and satisfactory character. The meetings had been well attended, and the papers and excursions had proved of great interest The Society had added to its collection photographs of all old Birmingham buildings of interest which were likely to be destroyed. Several works of archæological value had been presented to the Society, and others had been purchased and added to the library. The Society had also used its influence in favour of the preservation of the old Packhorse Bridge at Hampton-in-Arden, and it gratefully recorded the generosity of Sir John Holder in entirely defraying the cost of the restoration of the unique Moat Gatehouse at Nether Whitacre Hall, under the supervision of the President. Provision had at length been found possible for the library and collections of the Society by the adaptation of rooms in the basement The Society was indebted to the Council of the Institute for their continued exertions to attain that end, and for the generous and willing assistance which they had lent to the accomplishment of that much-needed work The committee regretted that there had been a small diminution in the number of members, the total now standing at 183, as compared with 192 last year. There was a deficiency of 22*l.* 7*s.* 2*d* on the general account, due to the cost of furnishing the new library. The report was adopted on the motion of the President, and a vote of thanks was accorded the officers for their services

The company then adjourned to the new library, which is situated in the basement of the building, and was formerly part of the apartments occupied as the old metallurgical laboratory. The room has been conveniently adapted to the requisite purposes, and the books and objects of interest have been carefully arranged under the supervision of Dr. Wright Wilson. Mr. H. C. Pinsent, the senior vice-president of the Institute, formally handed over the library to the Society, remarking that the room might not perhaps form an ideal library, but it would enable the members to keep the treasures of the Society in one apartment, where they might be studied with more profitable interest than hitherto

Councillor Martineau, as a member of the Council of the Institute and of the Society, said he had always taken great interest in the work of the members. The Society was established in 1870, with 190 members. He traced the history of the organisation, and alluded to the valuable work it had been able to perform, observing that it served a very useful purpose. Its record was one of which the members might well be proud, and the Council hoped that its usefulness would be continued with even greater success than before

Mr. J. A. Cossins (the president of the Society) assured the Council that the members thoroughly appreciated their kindness in providing them with a room which would serve the excellent purpose of a library and museum The work done by the Society was of great value, for it had been the means of securing the preservation of old churches and houses from the hands of the vile restorer. Although years ago the membership of the Society was very strong, of late the roll had steadily diminished, and he trusted that an effort would now be made to increase the membership.

The company then returned to the council-room, and Dr. Wright Wilson read a paper in which he described the present state of the library and museum. He said the number of volumes was 217, and included in the list were copies of the transactions of other societies with whom the Birmingham Society exchanged volumes of their proceedings They had forty-three volumes of archæology, but unfortunately the set was incomplete. The Corporation of London had presented them with volumes of their publications, they had six parish registers, and the antiquities of the counties were represented by twelve volumes. They possessed forty volumes relating to different localities, five volumes concerning Warwickshire, four volumes of indices and three volumes of calendars. He suggested that the members should provide a fund which would enable the committee to purchase books on coins and architecture and histories of the three counties of Warwick, Worcester and Stafford. With regard to the museum, he observed that they had a collection of sixty-two dies made in France in the last century under the direction of Captain Mudie, and medals which were struck from them at Sir Edward Thomason's manufactory in Church Street, Birmingham, an establishment long since demolished. There were, however, fifteen dies which were missing, and he hoped if the members heard of their whereabouts they would do their best to acquire possession of them, so that the collection might be made as complete as possible.

A vote of thanks was accorded Dr. Wright Wilson for his paper.

THE NATIONAL PORTRAIT GALLERY.

THE trustees of the National Portrait Gallery having already in their possession a portrait of the late Mr. John Ruskin drawn in chalks by G. Richmond, R.A, and also a terra-cotta bust of the same modelled by Sir J E. Boehm, R.A., and presented by the Earl of Carlisle, have decided to place these two portraits immediately on exhibition in the galleries, suspending, in view of Mr. Ruskin's great eminence, their usual rule as to the expiration of ten years from the date of a person's decease.

The trustees have been informed by Mr. G. F. Watts, R.A., a member of their board, of his intention to add to the collection of portraits already bestowed on the gallery a portrait of the late Dr. James Martineau. This will be accepted as part of Mr. Watts's original gift.

The trustees have also accepted as a gift a small picture with full-length portraits of Ann and Jane Taylor, authors of the well-known poems and hymns for the young, painted by their father, the Rev. Isaac Taylor, and presented by Mrs. Josiah Gilbert.

They have also accepted as bequests an oil portrait of Captain Marryat, the novelist, painted by J. Simpson, and bequeathed by his daughter, Miss Augusta Marryat, and a marble bust of William Pitt, by D. A. Olivieri, bequeathed by Mrs. FitzGerald of Shalstone.

Two casts—one of a medallion portrait of Thomas Carlyle by T. Woolner, R.A., the other of a medallion of Adam Smith by James Tassie—have been presented by Mr. James L. Caw, curator of the Scottish National Portrait Gallery at Edinburgh

In addition to these, three small portraits of John Ashburnham, the Royalist, Dr. Edward Young, the poet, and Samuel Prout, the water-colour painter, have recently been purchased by the trustees.

THE BRADFORD SOCIETY OF ARCHITECTS AND SURVEYORS

THE annual dinner of this Society was held on the 26th ult. at the Great Northern Victoria Hotel, Bradford. There was a fair attendance of members, although numerous apologies for absence were received up to the last moment, due chiefly to influenza. The president, Mr. James Young, who occupied the chair, was supported by, amongst others, Mr. B. D. Fairbank, ex-president, and Messrs. Charles Gott, Charles France, Samuel Jackson, Richard Horsfall, T. C. Hope, W. J. Morley, James Ledingham, and Rhodes Calvert, with the secretary, Mr. Charles Henry Gott. The guests of the evening included the mayor (Mr. W. C. Lupton), the president of the Bradford Incorporated Law Society (Mr. H. J. Jeffery), the president of the National Association of Master Builders (Alderman W. Holdsworth) and Alderman H. B. Ratcliffe. Various loyal and other toasts were honoured, the health of the Society being proposed by Alderman Holdsworth. The Mayor responded to the toast of "The Municipal Authorities" in characteristic vein, and Alderman Ratcliffe acknowledged that of "The City and Trade of Bradford" in an interesting speech.

TESSERÆ

The House of Augustus, Rome.

AUGUSTUS adorned Rome with beautiful buildings and works of art but not with an imperial palace. At a time of unbridled luxury, when Roman citizens surrounded themselves with the splendour of Eastern kings and Eastern kings built temples to the prince of the Roman senate, this prince lived in a little house on the Palatine, which had previously belonged to Hortensius the orator. On each side of the entrance stood a laurel tree; above the door hung the wreath of oak leaves given by the senate. The colonnade in front of the house was not made of marble, not even of travertine, but of the spotted volcanic tufa, peperine, which is the poorest of Roman building materials. He who stepped in in the hope of finding behind the unpretentious walls marble statues, artistic furniture, costly mosaics, had made a mistake. Nothing was to be discovered that indicated the rich man and judge of arts. Tables, sofas, and whatever else was to be seen, reminded one of the modest home of a citizen. A little room in the upper storey was the master's study. That he called his "Syracusa" He rather chose to work, however, surrounded by his family. In this dwelling lived the lord of the Roman realm over forty years. The children who grew up by his hearth he himself taught to read. Here he looked with pleasure upon his kinswomen busied with distaff and loom. For everyday use the emperor never clad himself in other stuff than that made ready by wife, sister, or daughter. Why did he choose that manner of life when he might have outshone the old-time Greek monarch of Persia in magnificence? The answer lies near at hand—that he did so because it was his humour. Another answer, too, lies not far off; he was the highest judge of the behaviour of his fellow-citizens, and deemed himself bound to be an example to them in the natural habits of life of their forefathers.

Art and Progress.

In every country the progress of art affords the truest picture of the intellectual growth of the nation. Among each people these arts germinated and sprang up, and before castles were erected or cathedrals were founded, solemn groves and august temples of rock were formed. Ere the Roman had planted his foot on British shores painting in an uncouth fashion had been resorted to to decorate the persons of the natives, for whose rude and not unpicturesque costume the objects in nature most readily to be met with afforded the simple materials. And thus early did their woods and caverns echo afar the unstudied notes of melody. Imposing monumental trophies served to exhibit their savage ingenuity and stimulate the first efforts in sculpture and architecture. Their wild eloquence, too, was often exerted in full fervour, and in their fierce games the foundations of dramatic art were laid. Their very barbarism gave force and vigour to their artistic efforts, passion added to their effect, and the savage and unholy rites which were exercised midst the dire conflagrations that illumined the gloomy recesses of their dense oaken forests called forth and exhibited to the full the contortions of each terrible emotion. Thus, far more ancient than civilisation, art first established itself and by degrees expanded and grew up. Older than learning, it aided the progress of knowledge; the mother of refinement, it first gave polish to the rude efforts of science.

Gothic Cramping-Irons.

For the long beams of wood used during the Romanesque period, the builders of the thirteenth century seeing that these soon decayed substituted cramp-irons, uniting the stones composing the courses. This method was never at any time employed with such singular exaggeration as in Ile-de-France. There are edifices, like the Sainte-Chapelle-du-Palais, at Paris, where all the courses from base to summit are fastened by irons. At Notre-Dame in Paris even it is seen that all the structures raised or repaired after the early years of the thirteenth century are, at heights not far separated, fastened by cramps set in lead. Certainly these builders had not entire confidence in their very ingenious devices, and their innate good sense made them soon feel that they were carrying their boldness too far. The way in which these anchorages are arranged shows, moreover, that what they feared most was the bending or twisting of the piers and walls, and in that regard the system of stone posts adopted by the Burgundian architects had a marked superiority over the dangerous use of cramp-irons sealed up in solid masonry. It must also be said that the builders of Ile-de-France found difficulty in procuring long stones resistant enough and capable of being set with impunity against the cleavage, while in Burgundy these were common and of excellent quality.

GENERAL.

A General Assembly of Academicians and Associates of the Royal Academy of Arts was held on Tuesday last, at which Mr. John Belcher, architect, Mr. H. S. Tuke, painter, and Mr. Alfred Drury, sculptor, were elected Associates. Among the candidates were Messrs Farquharson, Stott, Yeend King, George Simonds and Ridley Corbett.

The Collection of 224 drawings and sketches presented by the late M. Puvis de Chavannes can now be seen in one of the galleries in the Luxembourg

The Main Drainage Committee of the London County Council propose to expend 600,000*l.* on two additional lines of outfall sewers between the Abbey Mills pumping station and the Barking outfall works. An effort will be made to have the works or the greater part of them carried out by the Works Department

Mr. Frederic Harrison will preside at a meeting to be held at the St. Martin's Town Hall on Thursday, February 8, the eighty-first anniversary of the birth of John Ruskin, when the Rev. J. B. Booth, M.A., of St. James's, will deliver an address on "The Life and Work of John Ruskin," in which suggestions will be made for the formation of a Ruskin Union for the study of Ruskin's works. Admission will be by tickets, which may be had on application to Mr. Mark H. Judge, 7 Pall Mall, S W.

The Painting *King Cophetua and the Beggar Maid* has been purchased from the executors of the late Earl of Wharncliffe, to be placed in the Tate Gallery as a perpetual memorial of Sir E Burne-Jones. The cost of the painting was 6,560*l.* A sum of 2,000*l.* is still wanted.

The Court of Common Council have granted the Council of the Institution of Civil Engineers the use of the Guildhall for the purposes of a conversazione to be given by the Institution on Thursday, July 5 next, on the occasion of the visit of the American Society of Civil Engineers to this country.

Kensington Palace is henceforth to form part of the borough of Kensington instead of the borough of Westminster, to which it belonged till last week.

Mr. C. Hodgson-Fowler, F.S.A., of Durham, has been appointed architect to Lincoln Cathedral, in succession to the late Sir Arthur Blomfield, R.A. Mr. Fowler is also architect to Rochester Cathedral.

A Second Edition of the brochure describing the new town hall and municipal buildings, Colchester, has been published. It has been much enlarged and contains several illustrations.

The Society of Engineers will hold the first ordinary meeting for the year 1900 on Monday, February 5, at the Royal United Service Institution, Whitehall, when the president for the past year, Mr. John Corry Fell, will present the premiums awarded for papers read during the year, and the president for the year 1900, Mr. Henry O'Connor, will deliver his inaugural address. The chair will be taken at 7.30 P.M.

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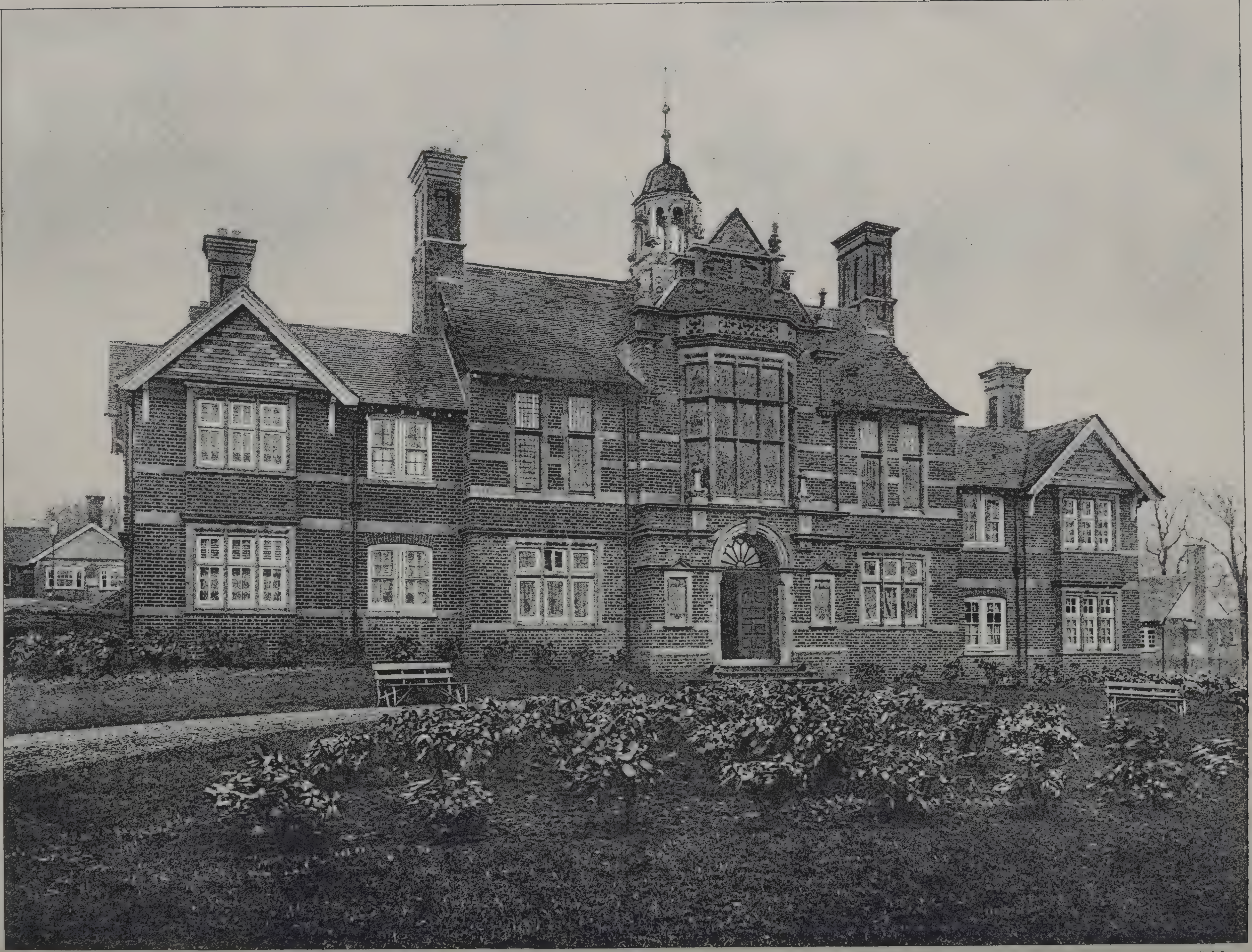

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THE LINEN AND WOOLLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX.

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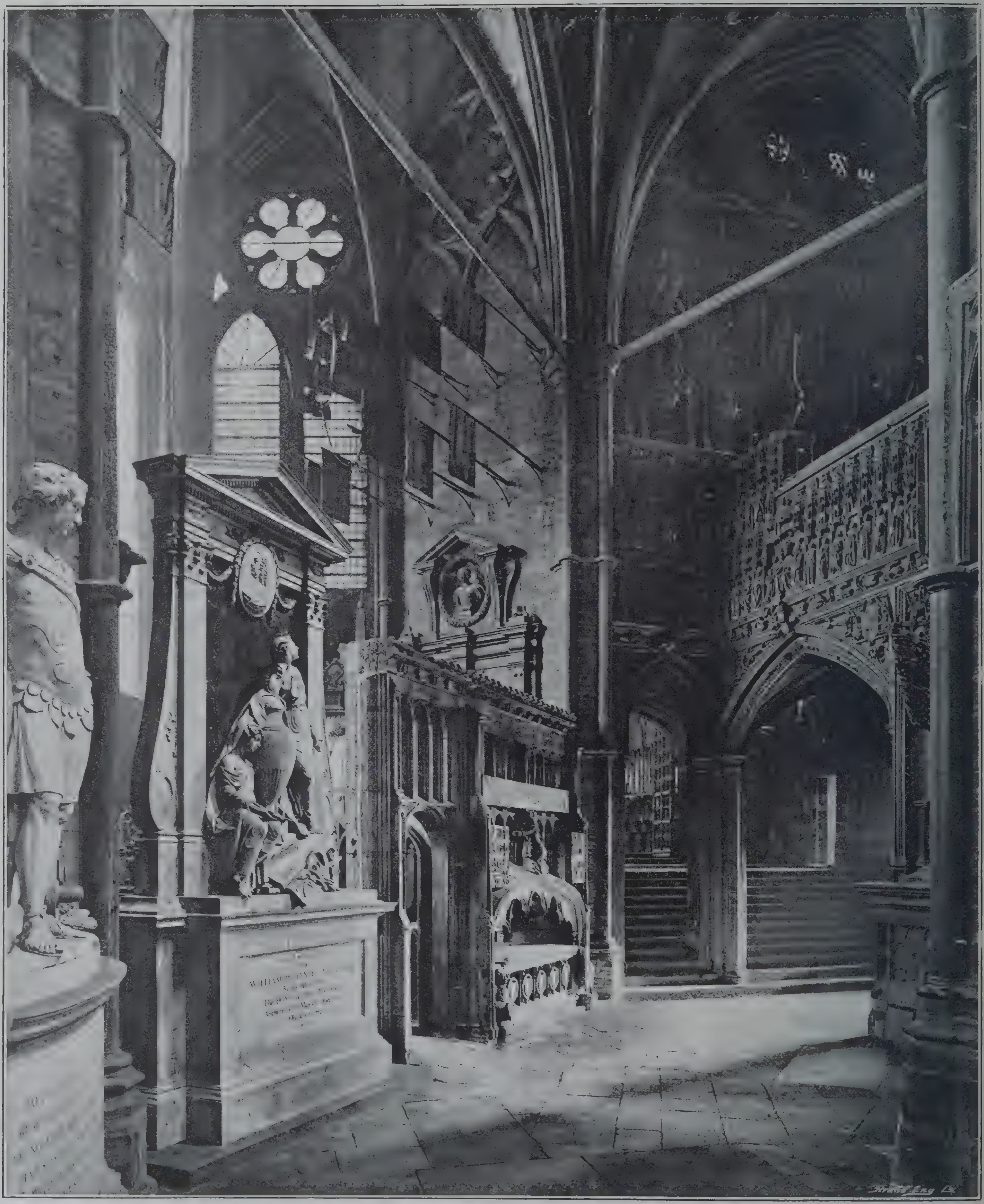

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WESTMINSTER ABBEY, No. 12.
NORTH AMBULATORY, LOOKING TOWARDS HENRY VII. CHAPEL.

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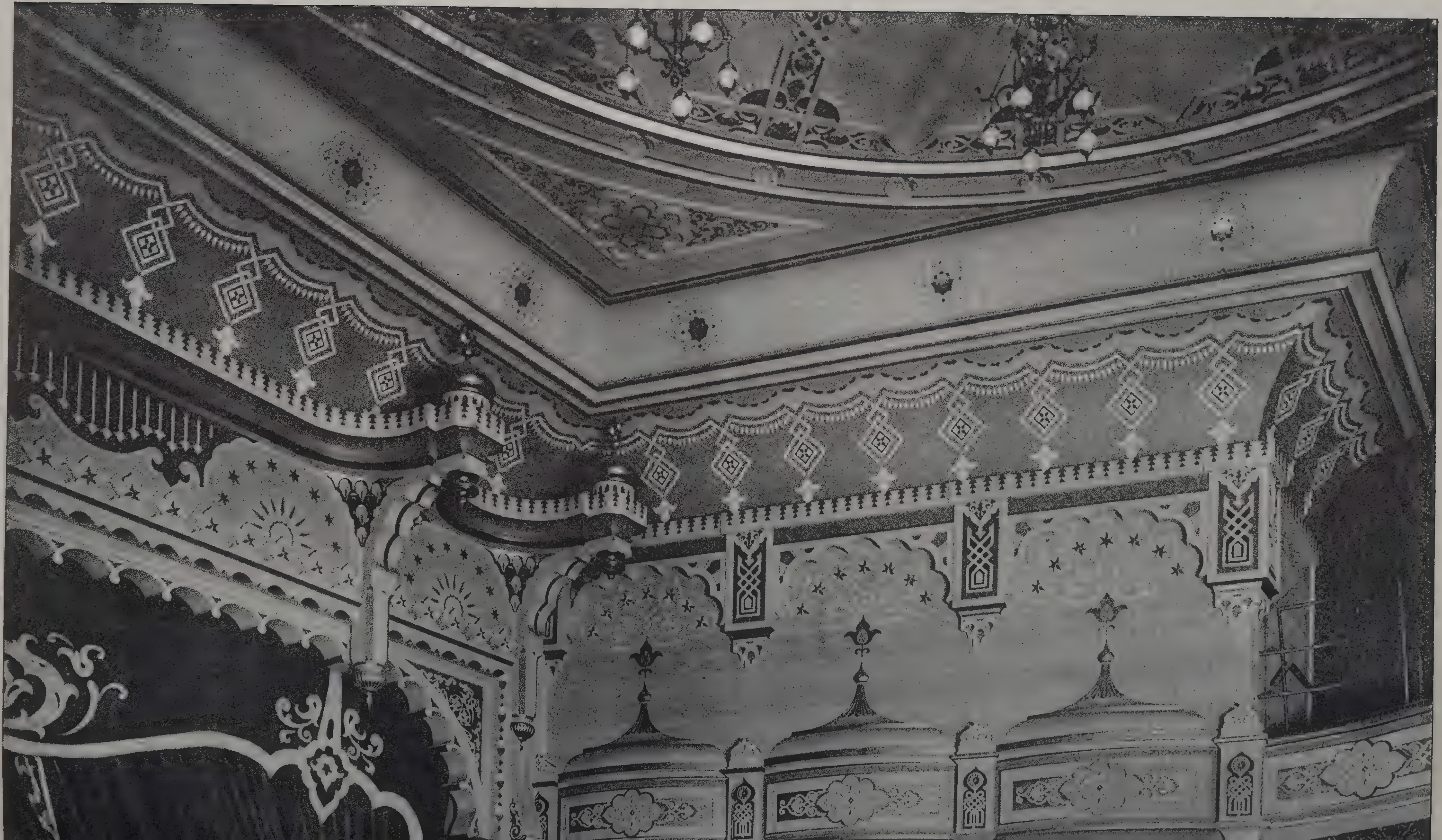
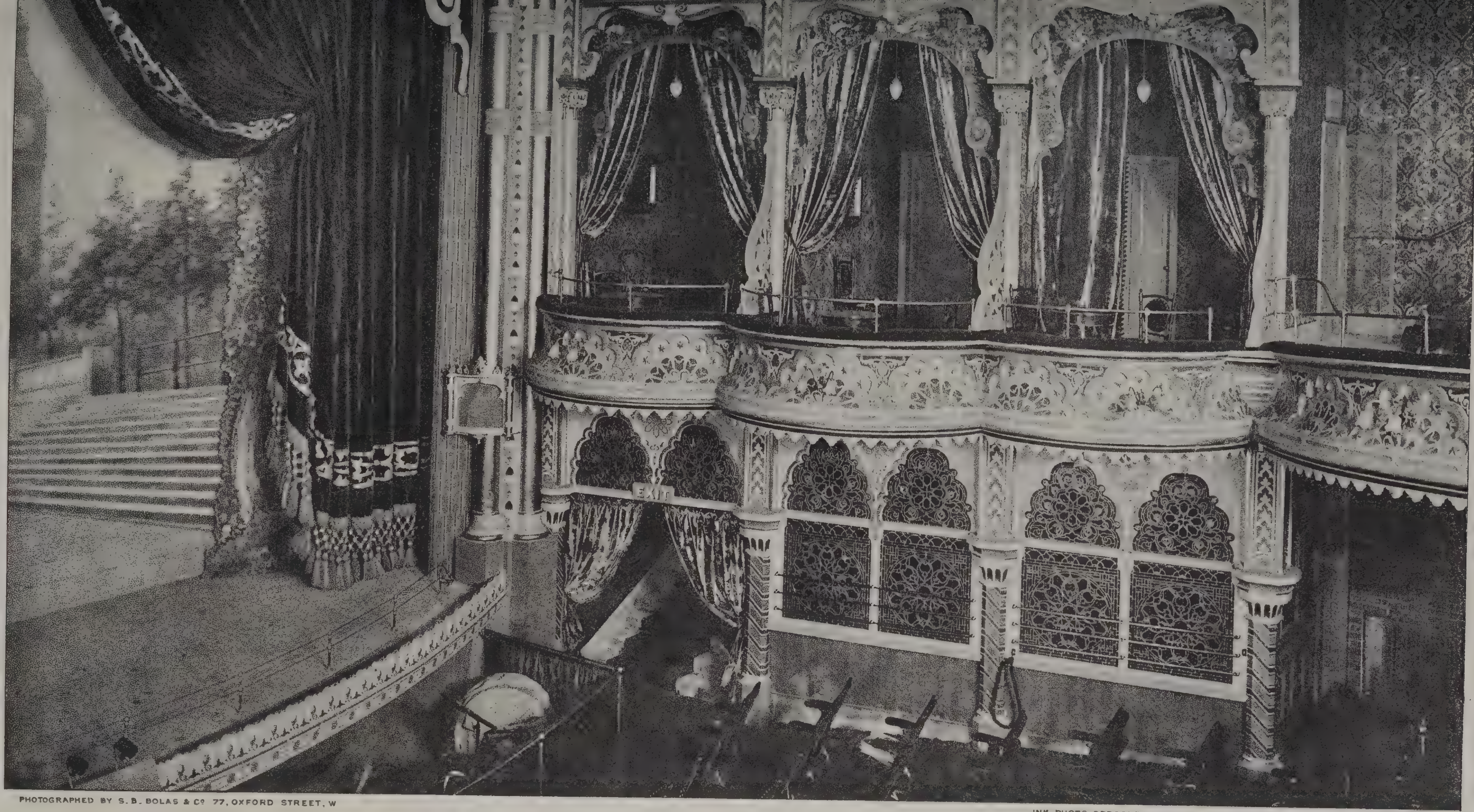
The Architect, Feb 2nd 1900.





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PRIVATE BOXES: CAMBERWELL PALACE OF VARIETIES.

ERNEST A. E. WOODROW, Architect.

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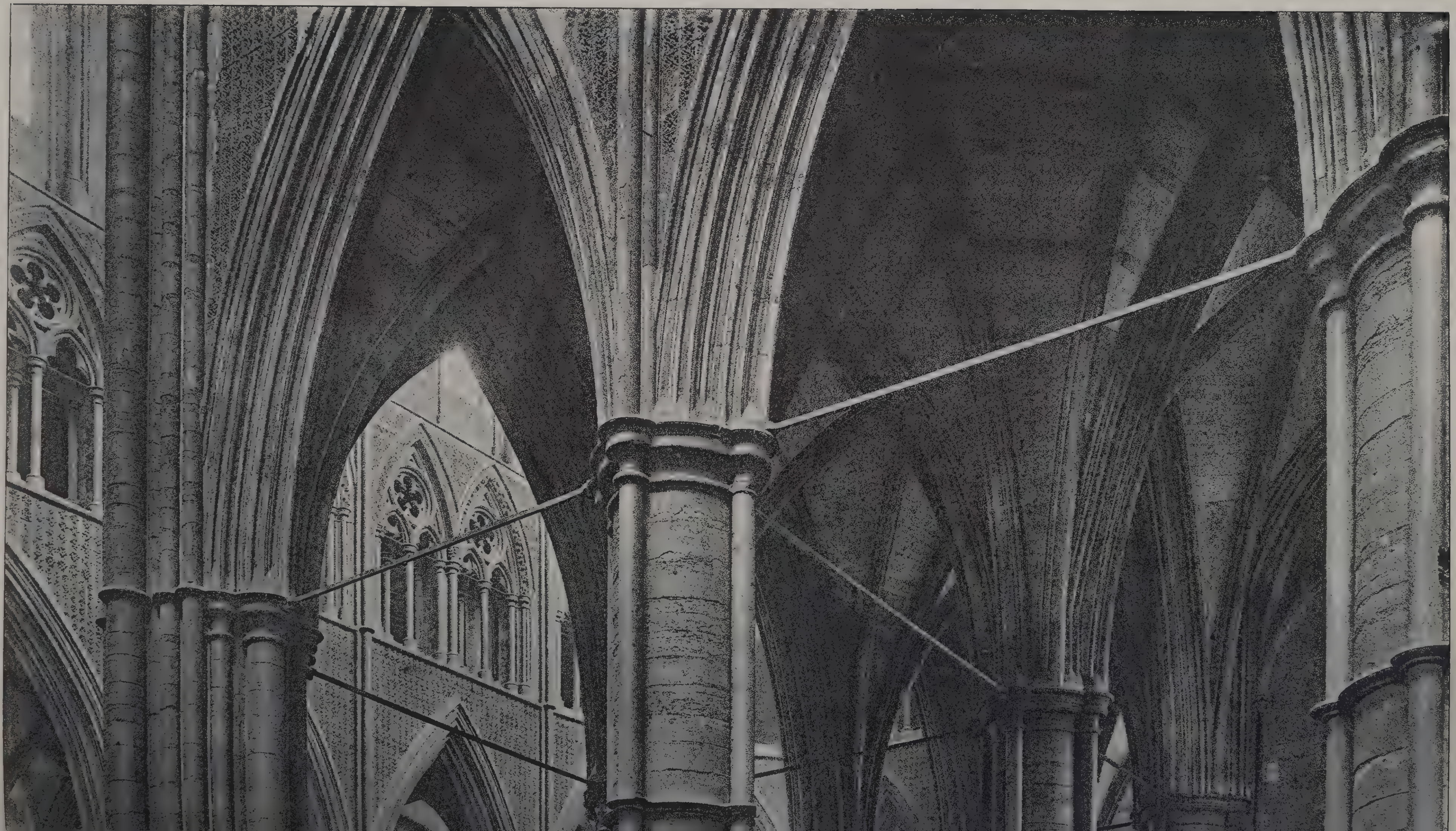
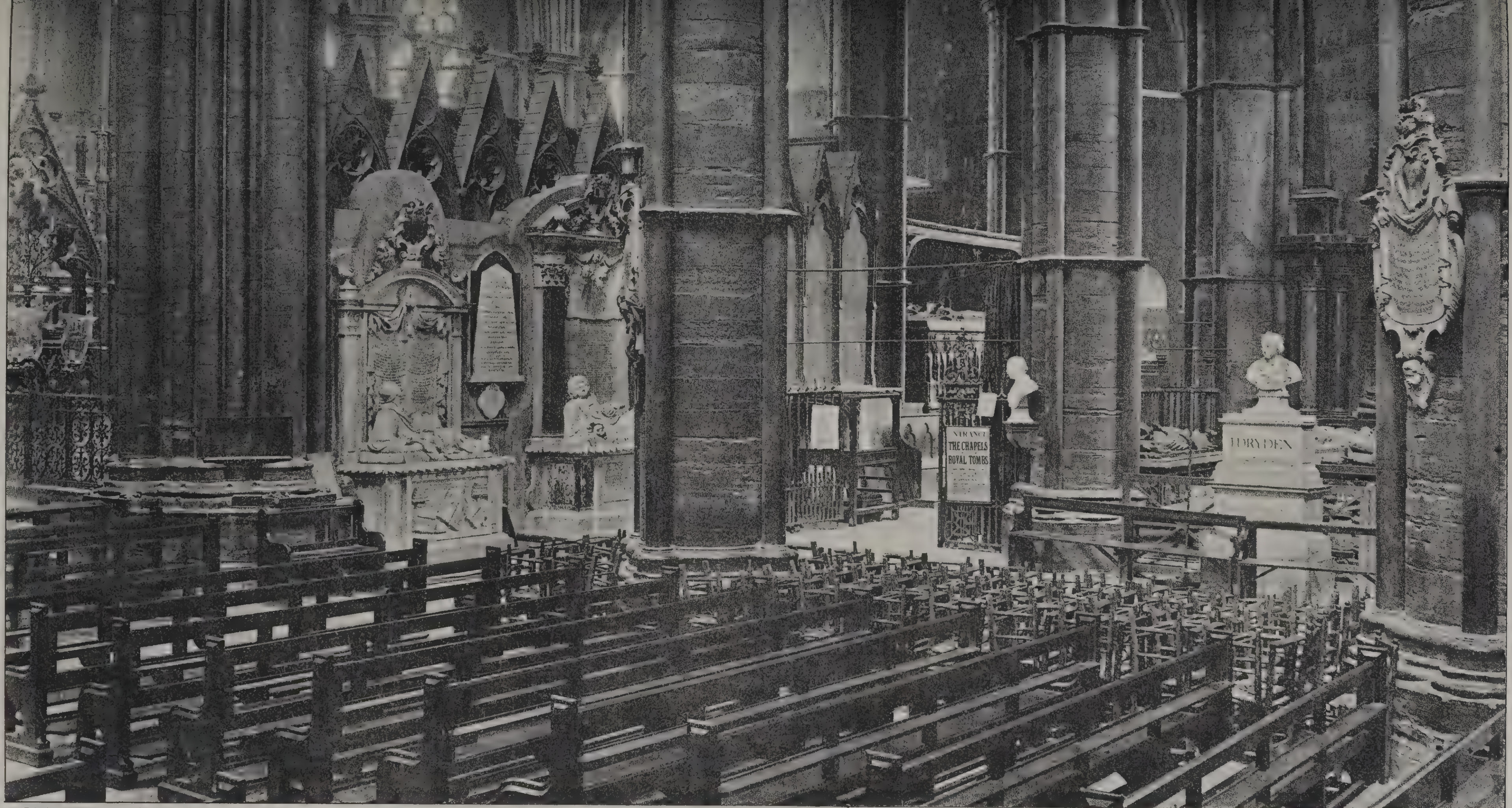
The Architect, Feb 2nd 1900.





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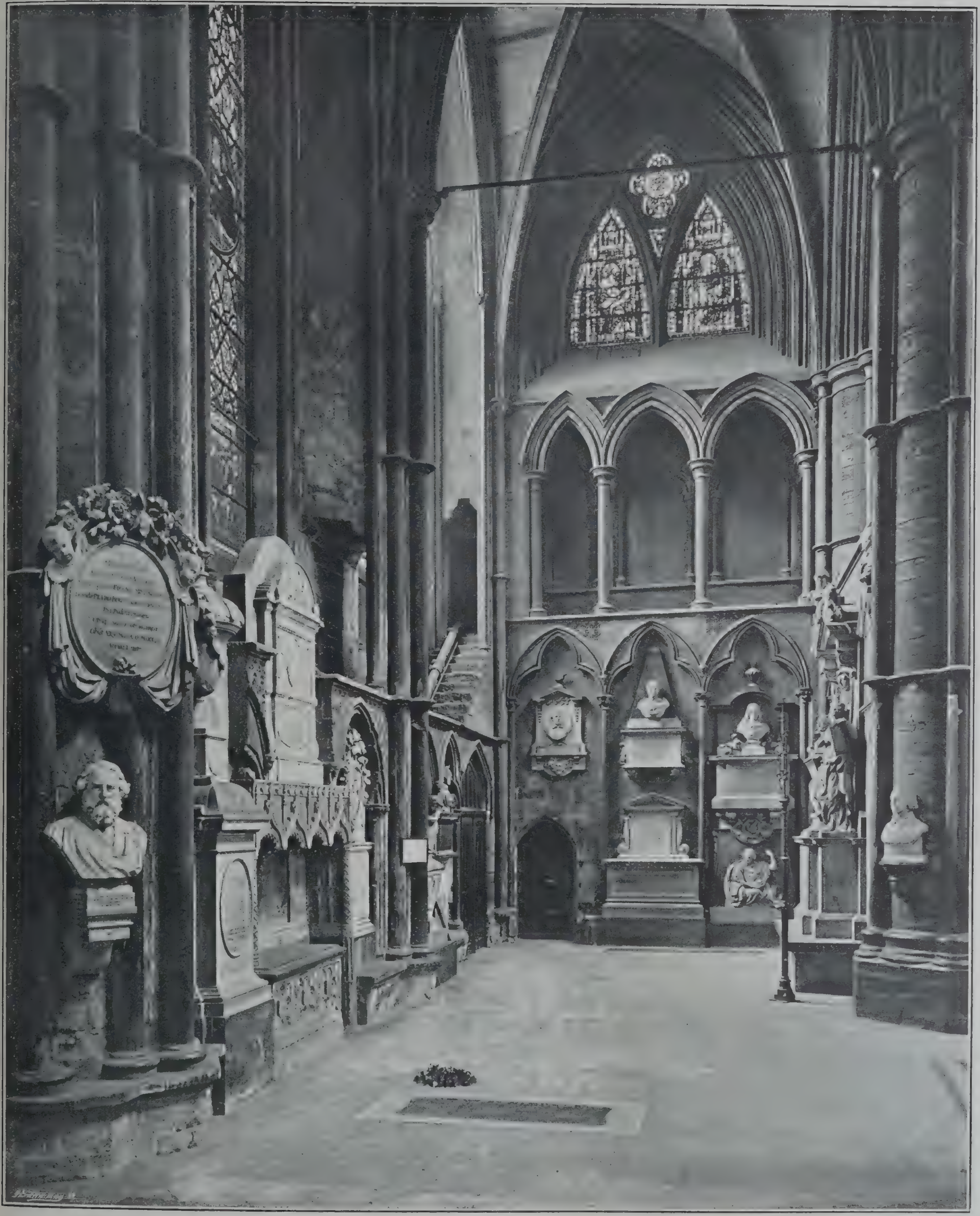
Westminster Abbey, No. 11.
From South Transept, looking North-East.



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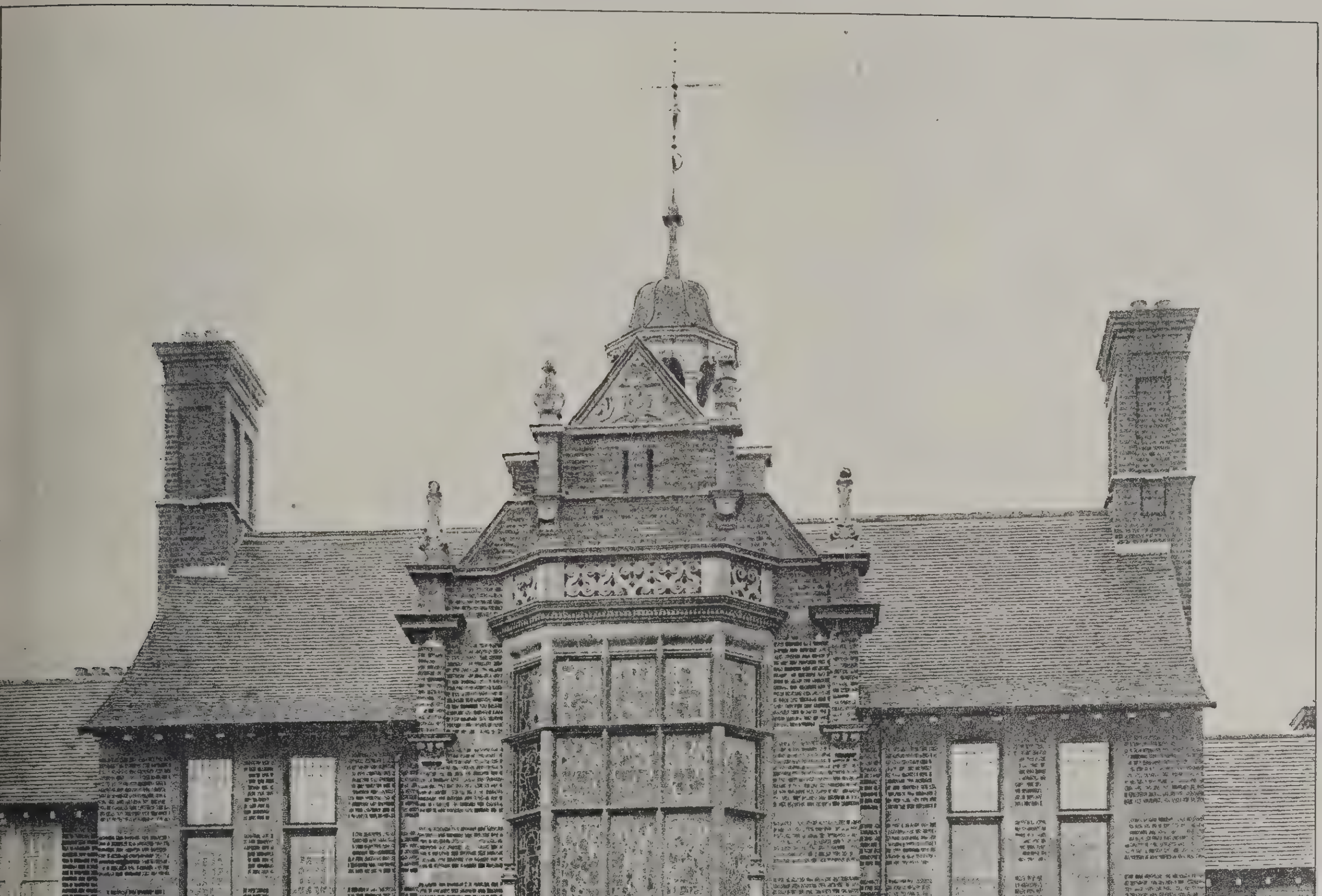
WESTMINSTER ABBEY, No. 13.
POETS' CORNER.

The Architect, Feb 2nd 1900.



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THE LINEN AND WOOLLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX.
CENTRE PORTION OF ADMINISTRATIVE BLOCK.
GEORGE HORNBLOWER, F.R.I.B.A., Architect.

The Architect.

THE WEEK.

Mr. Thomas Drew, R.H.A., has been fortunate in a remarkable archæological discovery in Christ Church Cathedral, Dublin, of which he has charge. In that ancient building there has been preserved, although nobody could say for what reason, an inscribed monumental slab measuring 33 inches by 18 inches. So much respect was given to it that in later times it was protected with glass. What it recorded was not known, but in 1878 Mr. Tyssen declared the words were of no interest. In the course of the restoration of Christ Church by G. E. Street the slab was fixed in a dark place. A reading of Leader Scott's "Cathedral Builders" suggested to Mr. Drew that the slab was in some way connected with the history of the ancient architects who went forth from Italy to exercise their skill in other parts of Europe, and he was rewarded by a revelation of the engagement of one of the Comacini on the building of which he is the official conservator. The lettering he has deciphered as follows:—

ION LUMBARD DILU GARMAND DE PARME E DAME RAME PERIS DE SEINT SAVAOUR D'ESTURIE SA FEME E TUT LILINAGE KE ESETE TERRE MURUNT GIEINT KI.

Mr. Drew's suggested translation is :—

John the master-builder, son of Raymond of Parma and the Lady Rame Perez of Saint Salvador of Asturias his wife and all his family which dying in this land lie here.

It is well to remember that when the inscription was produced the Somerset masons who were employed on the cathedral were likely to have received a draught from the monks in which the name of the master builder was incorrectly written. There are precedents to suggest that "Garmand" was intended for Raymond. It is remarkable, if that view be correct, that by a curious coincidence G. E. Street, in his book on "Architecture in Spain," records how Lombardo Raymondo, A.D. 1125, had been called from the neighbouring town of Monforte di Lemnos, and had contracted to build and finish in his lifetime (or, failing it by the master, his son), the cathedral of Lugo, in Asturias. He completed the work before 1175 and died. His son, Lombardo Raymondo, is found then in another part of Spain cathedral building. Is it unreasonable to suppose that a second son, Magister Johannes, was called to Dublin about 1172 by the Archbishop St. Lawrence O'Toole? The Dublin inscription points to his father as by repute a Comacini master of the Lodge of Parma; that he found a wife who belonged to the Perez family (also named by Mr. Street) in Asturias, of St. Salvador, near Burgos, and must clearly have been in practice there. The names of the master builders of cathedrals are rarely discovered. Indeed, some suppose they were concealed by a sublime modesty. The rescuing from oblivion of the name of the Italian-Spanish architect, John Raymond, is therefore noteworthy, and many will envy Mr. Drew for his good luck, which is the reward of the interest he takes in Irish archæology, and especially in Christ Church.

It cannot be too well remembered that an architect is without power to enter into subsidiary contracts for which the employer is to be held liable unless he announces for whom he is acting. He is an agent, and as such there must be no concealment about his principals. This is exemplified in the case Beightheil & Young *v.* Stewart, which was tried before Mr. Justice Bigham on Saturday. Mr. Stewart was the architect for the rebuilding of two public houses, and he asked plaintiffs for estimates for lamps on behalf of his clients, whose names were not mentioned. The plaintiffs sent the estimates to him, and in their letter referred to "your clients." The lamps were supplied, and the accounts were made out in the form of "W. Stewart, Esq.—Dr. to Beightheil & Young." The architect, in return, sent certificates for the amounts addressed to the builders. The builders declined to pay, although they were requested several times. On Mr. Stewart's suggestion, the building owners were applied to, and they also refused to pay. An action was then taken against the architect to recover the amount, which was 91*l.* Afterwards the builders paid 70*l.* Plaintiffs' counsel said the architect had made himself personally liable, because in asking for estimates he had failed to give the names of his clients. His counsel stated that he had informed the plaintiffs that there were principals, and that by seeking payment from the builders the plaintiffs had taken the risk in that course. The Judge, however, said that by applying to the builders and the building owners, to whom they were referred, the plaintiffs had not exonerated the architect. He had made himself personally liable because he had not declared who were the principals, nor made it understood that he was not personally liable. Although his lordship considered the builders were liable for the balance, judgment was given against the architect for the amount with costs.

The half-yearly meeting of the British Association of Waterworks Engineers will be held on Saturday, the 17th inst., at the Geological Society's Rooms, Burlington House, W., when the chair will be taken by the president, Mr. William Watts, at 10 A.M. A paper will be presented by Mr. C. E. Jones, member of Council, entitled "The Nation's Water-supply and its Effective Control," of which the following is a synopsis :—Importance of effective control, control should be on national lines, national board suggested, constitution of local authorities defective, monopoly of gathering grounds, centralisation of control of all sources of supply recommended, non-utilisation of appropriated areas, allocation of watersheds, failure of present system, exceptions, want of continuity in policy, combination or coupling of contiguous systems, example should be set by Metropolis, advantage of uniformity of supply, constitution, powers, duties and usefulness of proposed national water board, conclusion. As this subject is of vital and national importance at the present time, and various technical and other societies will be invited to send delegates to the meeting in order to represent their views thereon, the Council are particularly anxious to have a large attendance of members and their friends on this occasion.

Bulgaria has many reasons to be on good terms with Russia, and the Prince has therefore decided to erect a memorial of the late Czar Alexander II. A competition has been arranged in order to obtain designs. The principal subject will be a statue of Alexander II., which is to be surrounded by figures of four of the statesmen and warriors who aided the Czar, viz. his brother, and the Generals Ignatieff, Gourko and Skobeleff. There will also be bas-reliefs representing the siege of Plevna, the battle of Shipka, the passage of the Danube, the signing of the treaty of San Stefano, and the first sitting of the National Bulgarian Assembly. The designs and sketches are to be sent in not later than 19th January, 1902. The memorial is to be inaugurated in 1905. Five prizes varying from 1,000 to 5,000 francs will be awarded by an international jury, and the winner of the first prize is to obtain the commission for the work, which will cost about 12,000*l.*

The manner of regarding the excess above the estimates in the works of the new Meat Market by the Birmingham City Council is a testimony to the practical way of dealing with business which is characteristic of the capital of the Midlands. The amount was 13,972*l.* 7*s.* 4*d.* In most towns there would be an outcry about the necessity of meeting unexpectedly so large a sum, and the architects would be subjected to severe criticism. But in Birmingham not one objection was raised. It was believed that the additional outlay was a profitable investment and nothing else. Part of the money was expended on the purchase of leasehold property. The market is a novelty, and in such cases improvements are suggested during the progress of the works. The site selected required the foundations to be made deeper and costly provision for drainage. The delay in obtaining the site obliged the committee to accept an increase in the prices of materials. Several of the tenants proposed alterations which had to be carried out. The Council have, however, obtained buildings which have won admiration from experts and form a most valuable property for Birmingham. The architects are Messrs. Essex, Nicol & Goodman.

GOTHIC ART IN ENGLAND.*

When Emerson descants on the power of Fate or Destiny over Art, and says the artist's pencil or chisel seems at times to have been held and guided by a gigantic hand, he explains, according to his theory, the phenomenon of national or local styles. Although men naturally prefer to have their own way and to be independent in their works, there have been long periods when they all seemed to have thought and laboured as if individuality did not exist. Sometimes it has been advantageous for art, sometimes the reverse. Mr. Prior recognises the peculiarity which was manifest among Mediæval men when, in speaking of the building of the thirteenth century, he says:—"So though local uses in quarry-craft might create differences, the master style was one still as evident in small work as in great; in the great planning and in the least detail; the whole one master's achievement, because that master was the nation itself, and each particular workman or craft was but as a hair in his paint brush, or a molecule of his chisel." It is of the influence of England's mastership in architecture Mr. Prior mainly treats in his new book. He adopts the excellent plan of stating in his preface what he proposes to demonstrate, viz.:—"First, the distinction of the English style, as a true line of Gothic creation, native in its origin and in its progress, and separate by its qualities from the continental styles; secondly, as to the existence of English art in local schools and centres of craft, which made distinct sub-styles in their districts." His large volume is, therefore, unlike ordinary histories of architecture in which incidents and buildings follow each other in chronological succession, for it is a serious effort to prove that English Gothic art can be considered as racy of the soil of England, and possesses qualities of its own which are not weak imitations of those found in continental buildings, and especially of those in France.

The necessity of a work of its class is obvious. It has been so often repeated that we are indebted to the French for any success we may have had in building during four or five centuries, many English people have acquiesced in the statements as if they were articles of faith. An enthusiastic and impartial student of Mediæval art, the late M. Vitet of the French Academy, and who was for many years the oracle of the Historic Monuments Commission, has not hesitated to declare that the Saxons were, like the Lombards and other barbarians, without any architecture of their own, and it was not until after the Conquest that the fever of reconstruction which was created by the approach of the year 1000 A.D., and which spread through Italy, France and Germany, affected England. From France, he asserts, were imported not only architects and workmen for building, but the squared stones which had been cut in Caen. The Normans, he continues, carried their cathedrals, it might be said, ready-made to England, just as, in the time of Louis XIV., Le Notre planted the terraces of Marly with the great trees he had taken from the forest. M. Vitet could not fail to have observed many differences between the Norman churches in France and those in England, but he ascribes them as being due to a difference between the surroundings rather than to the construction. Then, again, he says there was no transition period in England, for the Norman style was succeeded by the Pointed, and evidently he imagined that we could only deal with architecture that was ready-made, and were indifferent to what was in an experimental stage. M. Vitet finds fault with the appellation "Early English," for to him French or German would be more appropriate. He admits the difference between chevets and the square ends of which there are three or four examples in France, such as the cathedrals of Laon, Poitiers and Dol, and the church of Sainte-Serge at Angers, but that peculiarity he does not consider as forming a radical feature. Moreover, it was not successful, for the great flat walls produce an effect that is dry and without poetry. It is only in the vaulting M. Vitet recognises native skill. The fairies who raised the Alhambra have not, he says, surpassed the wonderful covering of the Salisbury chapter-house, which is without any parallel in France. The Decorated English style, he maintains, corresponds with the contemporary French style, except in the treatment of details. It is not, says M. Vitet, until the Perpendicular style is reached that we can find anything which can be claimed to be really and exclusively English.

Several writers who are not so well acquainted with the progress of architecture have followed M. Vitet in his conclusions, and to suppose that English Gothic is or was a reality is to a Frenchman incredible. The indebtedness to our neighbours has received support from some authorities on architecture in this country, although students who were acquainted with the work on both sides of the Channel, such as the late Rev. J. L. Petit, have not hesitated to declare that French and English Gothic "may be shown to have an inherent and independent vitality of their own; either would have lived and advanced to perfection without the aid of any external influence. Whatever connection may have existed between them undoubtedly strengthened and advanced both, but the germ of progress was in each independently, and showed itself by movements in a great measure independent of each other. The comparison between the two styles shows this; their similarity proves the identity of their aim, their difference, the independence of their action." It is the aim of Mr. Prior to establish that England has as much right as France or Germany to claim a Gothic of its own. He gains his end not by mere assertion but by bringing forward facts that cannot be controverted. There cannot be stronger evidence on the subject than is to be found surviving in masonry, and Mr. Prior cites numerous examples of buildings to support his views. His book is argumentative throughout, and he has spared no pains to marshal facts in a manner that will make them most effective. But there is no effort made to strain evidence beyond its worth. Little value is attached by him to general and unsupported assertions; it is by an investigation of architectural detail that his conclusions are mainly supported. But he is no less successful in comprehensive views in which something else besides the work of the masons had to be considered. For example, after speaking of the square east end, which was copied in Laon and other places, he says:—

> This borrowing does not make the French Gothic derive from English, any more than the plan of Westminster Abbey makes its style a fresh starting-point of "French Gothic" in England. Indeed, from a consideration of the monastic conditions in England and France at this time, it seems strange that the intimate connections between our island and the Continent did not create a greater uniformity in their methods of fashioning architecture. Instead, the determination is seen on either side to go its own way. English masonry had, as it were, a pride in rejecting the prominent ambitions of the French Gothic. So one observes that the direct French introduction at Canterbury bore no fruit at all in changing the path of the English advance. The William who was "master" after William of Sens built on in the English forms, which by their nature were evidently not personal inventions, but part of an English manner which only some considerable series of Gothic practice could have evolved. And of this series we can show successive examples at Malmesbury, Worcester, Ripon, Wells and generally in the buildings of the Cistercians and Augustinians, which, if the dates cannot be as exactly determined as at Canterbury, yet most certainly many of them have been building years before that quire. But were such examples wanting, there is proof for the necessary existence of the series in the perfected English manner which followed immediately at Glastonbury, Chichester, Winchester and Lincoln. Lincoln at any rate shows little sign of borrowing from Canterbury. Its style speaks for itself as having no kinship with anything abroad. And no more did the succeeding examples of English Gothic show the least trace of French dependence. It was not till fifty years later that we find anything of importance that can be referred directly to France. The builder of Westminster Abbey, Henry III., was socially a Frenchman. In his early days he was continually at the Court of St. Louis, and his royal monastery was fashioned on the French system. Its monks spoke French, and the eastern limb of the abbey was designed on what might truly be called a "French" model, as indicating what was then being built throughout the length and breadth of our modern France. Yet, even so, it became itself no model for subsequent English usage. The influence of its plan seems indeed to have been singularly transitory, considering the prestige of its royal creation and the magnificence of the French counterparts which it not unsuccessfully emulated.

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* *A History of Gothic Art in England.* By Edward S. Prior, M.A. With illustrations by Gerald C. Horsley, and many plans and diagrams. London: George Bell & Sons.

English art made but little effort to march to the foreign tunes. Lichfield, Tewkesbury and Exeter showed no desire for French loftiness and a scaffolding of flying buttresses. Their humour is all for low, broad effects; the contrast is great between the smiling radiance of their English tastes and the lean, logical art of what is contemporary at Rouen. If Westminster introduced examples of window tracery such as the English, absorbed in their hobby for lancet windows, had hitherto but little encouraged—if, for the moment, French art ran in parallel lines—still, the English soon left French company. Our tracery early in the fourteenth century made speedy advance at once in the direction whither theirs turned quite laggardly in the fifteenth. By the beginning of the fourteenth century English Gothic was as characteristically English as when at the end it grew Perpendicular in form and ideal, disclaiming all continental connections.

If French models were looked to for guidance by the islanders who could not invent, there would not be the varieties of treatment of which more or less examples are still to be seen among us. By treating Gothic as a progressive art which was marked by a very few periods, sufficient account is not taken of the different varieties which prevailed in the country. If in the Canterbury diocese clerics went to the Ile-de-France for a model when they wished to erect a parish church, as people now go to Paris for the fashions, it did not follow that in other parts of England there was a similar admiration for the work of the foreigner. The interest attached to local treatment is insisted on throughout Mr. Prior's book. On that account, as on others, he is a vigorous opponent of many operations which were considered to be necessary for the process of restoration. It was not understood that churches in a great measure resemble dialects and arose under influences which we cannot now understand. To import, as has been done, details which added to beauty to churches in one district of the island into another district far away is as logical as it would be to confuse dialects and then boast of the gain to philology. The idiosyncrasy of many a church has been destroyed in that way, and its value as evidence in such an investigation as that undertaken by Mr. Prior is annulled. In days when communication between artists and workmen who were far apart was difficult, it was necessary for districts and even parishes to be self-reliant, and that so much variety ensued is to be taken as a blessing. At one time the notion prevailed that the plans of churches were prepared in some great monastery, and had to be faithfully carried out regardless of local circumstances. Although occasionally that course was undoubtedly adopted, it is no less certain that in many cases up to the thirteenth century local artists were allowed to try their skill in building. We may hope that the attention which is now given to parish records and to documents in private collections will throw light on the architecture of many a building which was hitherto supposed to be only one amidst the numerous productions of a central organisation. In many cases it matters little whether information is discovered or not, for the buildings have ceased to possess the authenticity which is indispensable for evidence to be used for historical purposes.

In the last half century there was no architect who was more indifferent to the historical aspect of church buildings than Sir Gilbert Scott. He laid down some excellent maxims about the necessity of the conservation of whatever was characteristic, but he was compelled to employ too many agents for his principles to be respected throughout the country. Mr. Prior is compelled to mention numerous cases where Scott's interference was fatal. Thus of Stone Church, in Kent, it is said "he took away a good deal of fifteenth century window work and put in his own." His rebuilding of Chichester spire "altered its outline and takes away all claim to its being now considered as a Mediæval example." His restoration of tabernacles at Exeter is "a false one," and many other cases are noticed for condemnation. Nor is Scott described as the sole culprit. Judging from the pages, it would appear as if every restoration was destined to be a failure. For if William Burges was unintentionally an agent in the destruction of ancient wall-paintings in the Salisbury chapter-house, what chance is there for less cautious and skilled directors?

Like many other opponents of restoration, Mr. Prior does not give any definite instructions about the best way to conduct it. Indeed, he does not seem to be over-zealous for the employment of architects either in building new churches or in repairing those which are old. The secrets of Gothic, he considers, are lost; nobody, according to him, is now able to build so simple a structure as a broach spire. "Nothing," he says, "shows the futility of our revival Gothic more clearly than the attempts of our architects to copy the 'broach' spire. There are hundreds of these efforts, all either clumsy or spiky—not one has reached the untaught grace of the Mediæval mason." The last phrase will suggest what Mr. Prior desires. He would, as we understand, revive the authority of the mason and other craftsmen, and allow them to exercise the power which it is supposed they wielded in the period of the Perpendicular, and may be at an earlier time. For a revolution of that kind something else is necessary besides desires, however warmly expressed. A practical demonstration would be more convincing than any eloquence. It ought not to be difficult to raise the funds which would be necessary to build a church or a chapel without the intervention of an architect. Let all the craftsmen be allowed to display their ability in the way which seems most fitting to them, and, if the result is satisfactory, it would then be time enough to insist on the retirement of architects from building. But all that is suggested by Mr. Prior is only another example of following out logical conclusions as far as they will go. What is said about the revival of "the hope of English architecture," as it used to be called, may be legitimate in a logical sense, but we doubt if it is the part of Mr. Prior's book which will produce most effect on the professional or on the public mind. We must confess that it appears to be less interesting than the much larger part of the book in which the relations between English and French Gothic are explained with a thoroughness which hitherto was not attempted by any of the numerous writers on architecture. It will be very hard to refute any of Mr. Prior's arguments in favour of the independence of the English builders and of the superiority of their work in many features. It would be well if the emulation of the two countries never gave rise to any other form of contest than one of æsthetics, but it seems to be inevitable that France and England can never be brought to agree in art or politics.

ARCHITECTURAL PRACTICE IN CANADA.

A CONVENTION of architects was held last month in Toronto, and from the proceedings we can infer the character of architectural practice not only in Ontario but in other parts of Canada, and it may be also in colonial towns in different parts of the world. Why there should be congresses or conventions in such places is not always plain. As a rule architects have to act during the greater part of their lives individually, and occasions for co-operation with other architects rarely occur. Painters and sculptors do not hold congresses, although it would be as easy for them to find topics to talk about as it has been for several years for architects. The stock subjects of education, professional etiquette, the indifference of the public, and so on, have as much interest for painters and sculptors as for architects. But it is realised there is not much use in discussing them. Architects, on the contrary, have a firm belief in the necessity of a corporate attempt at keeping up appearances, and in consequence societies are maintained, meetings are held and other processes are gone through for the purpose of inducing the public to believe in the power of the members. They do not realise how easily the public can judge of the importance of a society. When, for example, it is found that the subscriptions amount to a very small sum, and that several times they are not equal to the modest expenses, men of business, if they condescend to consider the case, cannot help drawing the conclusion that the Society in question is not very formidable. For instance, the Ontario Association of Architects, with which we are now concerned, received only 170 dollars as the annual fees of the members, while the expenditure amounted to 317 dollars. Accordingly it was necessary to draw upon the little capital which had been accumulated to start the Society.

Under the circumstances it might be supposed that the efforts of the Society would correspond with the financial support which they possess; but one of the peculiarities of the co-operative system is that individuals who would hesitate to indulge in ambitious schemes appear to consider themselves when united as if they had some extraordinary power behind them and were entitled to whatever they cared to claim. The members of the Ontario Association have not hesitated to ask some prominent citizens of Toronto to give them 5,000 dollars in order to endow a travelling scholarship for architectural students. We are quite certain the money would be well laid out, and the prominent citizens, we suppose, every year spend larger sums on less worthy objects. But the courage shown in making the demand would hardly be paralleled by the members of any other society or calling in the city. The effort, we are told, did not meet with success, and we doubt if a city could be found on the American continent where such an application would meet with a generous response. A committee was also formed to make application to the Government for funds to provide a gold medal to be presented annually to a member of the Association, or other architect whose work was considered of the highest merit. A cognate proposal was also made at the Convention, which was that "every year the Association place a mark of distinction upon a certain number of houses approved for excellence." The scheme, no doubt, is considered an improvement on the experiment which has succeeded in Paris of a competition between a limited number of building owners, and with judges of whose impartiality there can be no doubt. In Ontario the Association was to become the judge, and, as one member said, it would be preferable to put a label on every building designed by a member. A speaker in opposing the scheme declared they could not trust one another to carry it out fairly. They were all, he said, hunting so earnestly for a living; it had become quite a common practice when an architect received a commission for another architect to hunt out the employer, and to insinuate the advantages of getting rid of the selected architect and substituting the intervener. The scheme was not adopted, but from the fact that it was proposed and supported by an influential section of the Association, we can realise how much hardihood is acquired by a man when he becomes a member of an architectural society.

The education problem appears to be as puzzling in Ontario as in other places; in fact, the question of late years has become more complicated in the colonies, for the Royal Institute of British Architects being anxious to increase its funds is endeavouring to secure colonial associates. The President of the Congress was forced to say that, although the Council of the Association had undertaken to conduct a special examination for the Institute in Toronto, which was to be open, not to students, but to practising architects and chief assistants—the class of men most likely to be able to pay the annual fees—he considered the possibilities of advantages arising in that way as doubtful, and it would be better for the Association to aim at what was readily within its reach. It cannot be said that much light was thrown on the subject of education by the deliberations. The most practical conclusions were that the members of the Association should make it an essential requirement for their students or pupils to go up for examinations, that this condition might be entered in the students' articles and that instruction by architects to students upon the subjects of the examination should become part of the work of the Association. But as the improvised professors were not selected it is not likely the teaching will be started until an indefinite time elapses.

The greater part of the discussions related to the important question whether the Association was in a condition to enter into a three or four years' agreement for rooms of which the rent was 150 dols., or 30*l.* a year. Although it was suggested that by subletting part of the rent could be obtained, the members would not decide upon the venture, and the subject was left for the consideration of a committee to be afterwards appointed. It was also found necessary owing to the financial straits of the Association that the office of registrar and librarian would have for a time at least to be honorary. Poverty may be creditable, but the people of Toronto are sure to conclude that a Society that is unable to pay a single official has no right to exercise influence upon them. The misfortune of the Ontario Association, as of many similar societies, is in aping the ways of larger organisations. There is no reason why architects should not meet together and discuss subjects relating to their art and business, but that can be done without a shabby-genteel imitation of the American or British Institutes. This fact was admitted in a curious way at the congress. There is in Toronto an architect's "Eighteen" Club. The members do not pose as a mighty confederacy. The club, according to its representative, consists of a few of the younger members of the profession who met during luncheon hour, and thought it would be a good idea to meet on an evening also once a week in order to talk about architecture. But the Association is manifestly afraid of the club, and with reason, for it is not unlikely that the senior body will be superseded by the younger. It indicates the state of affairs when we find the Eighteen Club called in to give advice on the state of its rival.

There are physicians who believe in the virtues of plain speaking with invalids, and the club men evidently hold a similar opinion. The Association they said was founded on wrong principles, as it started with the purpose of doing good to architects rather than to architecture. If as much were done to make the profession better, instead of a close corporation, more results would have been obtained, and in the end the architects would have gained. The proposed examinations were a farce, for there was no system of education to prepare for them. The charter was a useless clog on the more intelligent architects of the province. Nothing was done to improve the relations between architects and the public. The meddling with competitions was useless and undignified. Members of the Council took part in competitions after protesting against the conditions, and such practices tended to lessen the respect of the public for architects. It would be the height of presumption to ask the Legislature to restrict the use of the word architect when the whole work of the Institution was conducted in an unbusinesslike manner. The club men proposed that the energy of the Institution should be restricted solely to education, that the few really earnest and sincere members of the Association should agree not to take pupils, who would not be bound to go through the course laid down by the Association, and that a room should be hired in which pupils could work on the atelier system as at the Ecole des Beaux-Arts in Paris. The "patrons," it is proposed, are to be five or six of the most respected architects in Toronto, who would each have to spend about an hour a week in superintendence The success of the experiment by Mr. Flagg and Mr. Hastings in New York was a guarantee against failure. As for the talk about travelling scholarships, medals, &c., it was, according to the censors, only adding to the farcical side of the Association. The members of the Ontario Association accepted the criticisms of their past history and present condition with meekness. Apart from the advantages to be derived from having an available body of useful assistants, it is felt that some course apparently unselfish is demanded to give a reputation to the members as a body. As one of the members said, whenever they approached the Legislature to ask for anything they had been treated as if they were seeking their own advantage as individuals. It will be seen from the words that in other places besides England there is scepticism about the disinterestedness of architects. The education of pupils by the members, it is imagined, will be taken by the Canadian Government as a proof of generosity, and at any rate it cannot have an injurious effect in the eyes of the world on the Ontario architects.

The fate of the Association should be considered as a warning. It was established in 1889, and as the public spirit of the members is now doubted by the Legislature, it is not easy to discern the compensation which is to be found to balance so serious a prejudice against architects. What benefits can be shown as arising from the united efforts of the members? In the Convention there was no allusion to any gain from the existence of the Association. On that account the experience of the Ontario Association should be utilised, for the doubts of the legislators imply that with many people there must be graver prejudices, and it is not clear why dissolution should not be accomplished as speedily as possible. Indeed in one sense the Society can be considered as being without a legal existence. It was sanctioned and holds its powers from the State by virtue of an undertaking that the members were not to be admitted unless they went through an examination. It is, however, proposed that the submission of designs should be taken as equivalent to an ordinary examination. But an evasion of the law in that form might involve all the members, or at least the Council, in serious responsibilities. Unless the Eighteen Club will come to the rescue the prospects of the Ontario Association of Architects are not encouraging to those who are ambitious to play at society promotion.

OUR NORMAN BUILDERS AND THEIR WORKS.—II.

By James K. Colling.

THE greatest and the most distinguished builder of the early Norman period was Gundulph. When he became bishop of Rochester in 1077 he found his cathedral in such a state of dilapidation that repairs were useless; he therefore obtained funds and commenced rebuilding. The Norman portion of the nave, and two bays which still remain of the crypt, were his work. The west front, with its magnificent doorway, is later, and was probably added by his successor, Ernulf, who had done so much good work at Canterbury whilst he was its prior. He took down the choir there which was built by Lanfranc, and "erected it so much more magnificently that nothing like it could be seen in England." This was destroyed by the great fire of 1174, and was succeeded by the still finer work of William of Sens.

The experience of Gundulph in architecture must have been very considerable, for, in addition to his cathedral, he was employed by William in the erection of the Tower of London. He also built Rochester Castle (although some parts may be later), Malling Castle and portions of Dover Castle, besides many other works. He was, therefore, a great military architect, as well as a church builder.

The first Norman bishop appointed to the see of Winchester was Walkelin, who was of noble birth and related to the Conqueror. Following the usual custom, he commenced a new cathedral "from the foundations" in the year 1079.

The following story is told of the manner in which Walkelin procured timber for the completion of the church, by taking undue advantage of the gift of the king. The Conqueror granted him as many trees from an oak wood, on the old Alresford road, a few miles from Winchester, as his carpenters could take in four days and four nights. But the bishop collected an innumerable troop of men, and within the stipulated time cut down the whole of the wood and carried it off to Winchester. When the king passed that way soon after, he cried out, "How's this? Am I bewitched, or have I taken leave of my senses? Had I not a fair wood on this spot?" When he was told what the bishop had done he was very wroth, but the bishop found means to appease him by humbly pleading the roofless state of his cathedral. The king exclaimed, "By God's 'ounds! I was as much too liberal in my gift as thou wert too greedy in availing thyself of it." This anecdote cannot be literally true, unless the trees were of small size. It is said, however, that the transept roofs show to this day what became of much of the wood.

The transepts are parts of the original work of Walkelin. The nave, which was also Norman, has been covered up by the later work of William of Wykeham. The internal portions of the walling, however, are original, and still show the noble proportions of Walkelin's work.

Thurston, the last Saxon abbot of Ely, died in 1072, and Simeon, the brother of Walkelin, being appointed to the abbacy, commenced to collect funds and materials for the erection of a new church. He laid its foundations in 1082, but although he reached the age of 100 he did not live to finish it. Probably he began the nave, which was no doubt completed after his death according to the original design. The transepts are the only portions of the present building which are recognised as the work of Abbot Simeon.

Hereford Cathedral, and a great part of the city, were burnt down by the Welsh king Gryffyth. The church lay uncared for and in ruins during the troublous times of the Conquest. Some portion may have been repaired in order to carry on the service. Robert de Losinga was the first Norman bishop appointed. He is said to have been one of the most learned bishops consecrated by Lanfranc He began to rebuild his cathedral in 1079, on a more extensive scale than the former one, the invariable rule with the Normans. The piers and arches of the nave, the choir as high as the clerestory, and the south transept are regarded as parts of Bishop Robert's work, although the enriched capitals to the piers in the nave appear to indicate a somewhat later style.

At Worcester the Saxon cathedral was pulled down in 1084 by Wulfstan, the last remaining Saxon bishop. Probably he was obliged to do this under the force of circumstances and Norman rule. At its destruction, which he regretted, it is related that he was moved to tears When remonstrated with by those around him, he made answer "that he wept because he was pulling down the work of a much holier man than himself, and to think that men lost in holiness of life and care of souls what they gained by grand and pompous buildings." The parts left of Wulfstan's work are the interesting crypt and portions of the chapter house.

These buildings, as well as many others, were commenced in the first William's time, but some of them were not completed until many years after, when the style and fashion of the architecture had much altered and advanced in lightness and richness of character.

The second William, although industrious in erecting castles, was not a great church builder like his father. Three large works in London were undertaken, however, by Rufus. The surrounding of the Tower with a strong wall of enclosure; the erection, or commencement, of London Bridge in stone; and the Great Hall at Westminster. The bridge was not completed for a long time. A flood, more than once, swept away the unfinished work, making it necessary to rebuild it again. The people complained bitterly of the way in which they were taxed for these works.

"Eke many shires that with work to London belonged were sorely harassed through the wall that they wrought round the Tower, and through the bridge that well nigh all flooded away was, and through the king's hall-work, that man in Westminster wrought, and many men therewith harassed."

The Hall at Westminster was originally divided into nave and aisles by piers and arches in the round-arch style, but these features have been obliterated by subsequent changes and alterations.

The greatest and the most magnificent work of this time was the cathedral at Durham. It was begun by Bishop William of St. Carileph, in 1093; he did not, however, live to complete it. At his death in 1096 the choir had been completed, as well as the tower arches and one bay of the nave. The See remained vacant for three years, the red king appropriating the revenue.

The next bishop who took up the work was compelled to give the king 1,000*l.* for his promotion to the See (representing a very large sum of money of the present time). This was Ranulf or Ralph Flambard, who carried on the work of his predecessor with great energy. He constructed the nave up to the roof, following the former design, but the work was stopped for a time by the death of William Rufus, when Flambard was committed to the Tower on a charge of malversation. A butt of wine was, however, sent him by his friends while he was in prison, by which means he intoxicated his keepers. In the wine was concealed a rope, by the aid of which he managed to escape, cutting his ungloved hands to the bone in the act.* He fled to Normandy, but was restored to his See in 1107.

Previous to his being Bishop of Durham he had been Dean of the Priory Church of Christchurch in Hampshire, and contemplated its entire rebuilding upon an enlarged scale, but his rapid promotion prevented the fulfilment of his intentions. He, however, built the Norman nave and transept, and had commenced other works there, which were suspended on his removal. There is a similarity between some of the work at Christchurch and that at Durham, which points to the probability of FLAMBARD being the architect in both cases.

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* Benjamin Ferrey, F.S.A., Transactions R.I.B.A.

He was one of the most remarkable men of his time. A native of Bayeux, the son of THURSTON, a village priest, he became by advancement procurator-general to the king. He was execrated by the people for his exactions, and also by the bishops for his distraining them of their rents and property. Upon his becoming Bishop of Durham, he devoted the rest of his life to the completing of his cathedral. Besides the naves of Christchurch and Durham, he erected Norham Castle, Mottesford Priory, county of Lincoln, and Kepyer Hospital, Durham.

The Norman work at Durham differs materially from the types found at Gloucester, Hereford, Tewkesbury and the eastern counties. It is upon a bolder and a much grander scale. The choir, transepts and nave show the same general design. They are formed by a double bay of two arches, the main piers being constructed upon a cruciform plan, with bold vaulting shafts, the intermediate or secondary piers being circular. The nave is more enriched than the other parts of the work, showing the influence of FLAMBARD.

It is evident from the position of the vaulting shafts that the nave, choir and transepts were intended to be groined in stone by a semicircular quadripartite vault (fig. 1). Who can tell? Perhaps it was attempted to be so carried out, but the crown of the vaulting being so flat proved unsafe, and had to be abandoned. The nave was without a roof at FLAMBARD's death. The present groining, which is late Norman, divides the large bay into two, and consequently pointed arches were necessarily adopted by the builders, and the intermediate springing was taken by a small corbel, as roughly represented by fig. 2. The main arch of the vault across the nave is also pointed. This is the only Norman groining across a nave existing in this country, although other cathedrals were evidently intended to be so groined. Aisles were constantly groined, but wider spans were avoided until a subsequent period.

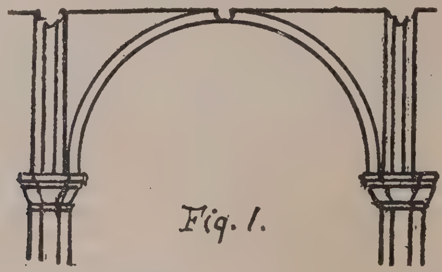


Fig. 1.

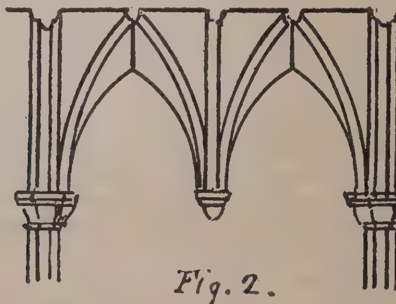


Fig. 2.

HERBERT LOSINGA removed his See from Thetford to Norwich in 1094, and two years afterwards he laid the first stone of the existing cathedral. The chroniclers declare that he bought his bishopric from the king for the sum of 1,900*l*., and that he also bought that of Winchester for his father. His work is said to have comprised the choir and its aisles, the first storey of the tower and the transepts. The nave, which is somewhat later, was the work of EVERARD, the succeeding bishop. It is of great length and is Norman throughout, with the exception of the vaulting, which is of the fifteenth century. The castle on the hill overlooking the city was built by WILLIAM RUFUS.

He was buried at Winchester in 1100 below the central tower. Seven years after the tower fell in upon his grave. It was considered to be "a judgment in consequence of the monks having buried in consecrated ground so wicked a man." In rebuilding the tower the piers were built very large and of a most unnecessary strength to support a comparatively small tower. The piers are the largest for such a purpose to be found in England.

That the builders of this era were deficient in scientific knowledge, is shown from the falling of so many of their towers. They built massive square towers well enough on solid ground, as at Durham and Exeter, but they failed in their central towers supported on piers and arches. Besides that of Winchester, the centre tower of Gloucester fell in 1160, Worcester in 1175, Evesham Abbey in 1215, Lincoln in 1244, Ely in 1322, and that of Norwich is said to have been blown down in 1361—all Norman towers. At Caen the central tower or lantern of the Conqueror's church of St. Stephen fell down in 1566.

There are two causes which account for the failure of Norman towers. The first, from their being supported on four semicircular arches, raised upon lofty piers with insufficient abutment. The crowns of the arches in time often become depressed, and the haunches open upwards, from the piers having become thrust out of upright by the great weight of the tower above, and the whole would eventually collapse. The second cause was the manner in which the piers themselves were built. Formed as they usually were, with a thin outer casing of dressed stonework (technically termed ashlaring), the interior being filled with rubblework and mortar, roughly or loosely packed in, the consequence would be that the two parts would be liable to separate, the outer casing crack and bulge out, while the internal work would crumble away, unable to bear the superincumbent weight. This was the case at Chichester when it fell, in 1861, where the ashlar became fractured and burst, and the interior ran out like so much sand.

WILLIAM WARELWAST, bishop of Exeter and nephew of the CONQUEROR, is noteworthy for his noble twin towers, already mentioned, which were placed in an unusual position north and south of the church, and now form the transepts. The church was begun during the reign of HENRY BEAUCLERC (about 1112), but WARELWAST did not live to finish it. The towers are the only portions now left of his work.

Bishop ROGER of Old Sarum was not only a great churchman, but a great builder. He built the castle at Devizes and another at Sherborne. Like all the Anglo-Norman bishops he resided in his castle in great state and magnificence, and kept up a numerous body of armed retainers. He was a great favourite with HENRY, and was appointed chancellor upon his accession to the throne.

HENRY followed the example of RUFUS in the erection of castles, which were becoming very numerous, but in this he was exceeded by STEPHEN in the next reign.

The castles, which at this period could be counted by hundreds throughout the length and breadth of the land, where are they? With few exceptions they have become picturesque, ivy-covered ruins, sought after only by the sight-seer. We may imagine the tourist coming upon a keep of one of these castles which time had partially spared. He scrambles up the broken winding stair, rushes round the continuous passage, in the enormously thick walls, peeps through the cross-formed arrow-slits, comes upon the chapel, looks into the bed-place leading out of it, and wonders how the lord and his lady could ever sleep in such a "beastly hole." Then he looks at the remains of the machicolations on the top of the walls, and if he has sufficient imagination, pictures to himself the lord of the castle tearing up his own roof to melt the lead to pour down, between the corbels, upon the heads of his enemies who are endeavouring to undermine his walls.

Such a scene would be quite probable, for many of these proud barons had to stand some very fierce sieges. Some of them brought the king himself down upon them. For it should be understood that all these castles nominally belonged to the king, although built by his barons. During the first two reigns land was what was called "loan land"—that is, all land was the property of the king, he permitting his subjects to build upon it, but they were bound to assert his authority and to assist him in his wars, or to give up their castles for his use if he required it. A son could not inherit his father's house or estate until he had paid the Crown a heavy sum for doing so. It was not until HENRY's time that this was altered.

Most of the Norman churches were probably not built until late in the period. A noble of that age, after completing his castle, erected a church near it and planted a colony of monks in some corner of his possessions. Others were built as ordinary parish churches, and in many cases were very small, such as Adel Church, in Yorkshire. It consists of nave and chancel, with enriched chancel arch, and an elaborate deeply-recessed south doorway, ornamented with zigzags and beak-head mouldings. Kilpeck Church, Herefordshire, is another of about the same size, with enriched chancel arch and south doorway. Some of the ornaments of the doorway consists of serpents twisted and biting each other's tails—an evident reminiscence of the serpent worship of the Danes. Another most interesting small church is that of Barfreston, in Kent, with enriched chancel arch and north and south doorways. The ornaments are of that curled and entwined kind which is supposed to have been brought from Norway at an early period. Iffley Church, Oxfordshire, is a very complete Norman cross church, with central tower and three deeply recessed and elaborately enriched doorways. The date of this example is given as about 1160, which would indicate it to have been built in the reign of Henry II.

Great numbers of these enriched and deeply recessed doorways are to be found in various parts of the country, and they evidently were highly appreciated, and therefore preserved by later builders. In many small churches, where everything else has been swept away to make room for later alterations, these doorways are allowed to remain, and in some cases have been taken down and erected in another position—as, for instance, when an aisle has been added to the church, the doorway has been removed to the exterior wall of the aisle.

Many other examples, both of churches, cathedrals and abbeys, might be cited, but so little is known, even of the names of the builders in the case of the churches, that the giving the names of such as have been handed down to us would be but a barren list with few particulars concerning them.

TESSERÆ.

Size of Pictures.

It is difficult to assign any arbitrary limit to the size of a picture, but must it not be in some measure determined by the capacity of a human pair of eyes? When a picture passes those proportions which the eye assigns to it—when it ceases to become a unit in vision, and the direction of the look is changed, not for the purpose of examination of the parts but for that of comprehension of the whole, it is no longer a single picture but a plurality of pictures on the same canvas. Nature gives us thus many pictures in one scene, and when art attempts to do the same it passes its proper bounds, and, in endeavouring to become a literal copy of nature, commits a solecism in taste of the same kind as that committed by colouring statues and assimilating sculpture to wax-work. Art ought to assist the appreciation of the beholder by limiting pictures within reasonable frames.

History in Buildings.

The kind of art from which the passing traveller can derive the greatest quantity of knowledge and enjoyment is that which is to be found in the outside rather than in the interior of buildings. A painting demands study, but the character and tendency of an edifice are taken in at a glance. Archæological study has brought new and rich ground of this description into cultivation, and by investigations and classifications has given the traveller the inestimable advantage of reading the history of the territories he passes through in the character of the edifices. The Normans, for instance, were the great castle builders; and the form of the castles in any country will show us, by a sort of tide-mark, the time when they overran it—whether in the age of that round-arched massive style which has been named after them, or in that of the first pointed manner, or in any other of the progressive varieties which have been so sedulously traced and clearly classified. Pasquier tells us that the term castles in Spain—pretty nearly equivalent to that of "castles in the air"—is as ancient as the "Romaunt of the Rose," and owes its significance to the fact that there were no castles in Spain. So also it was almost the only part of Europe where the Normans were not predominant, the Moors of Africa having taken the place usually assigned to them. To any eye that will take the trouble to note what it passes over, the destinies of states may be everywhere as distinctly read in stone. In Scotland we have fortified houses of the seventeenth century, while in England we must go back for them to the Wars of the Roses. In Saxony, Northern Prussia and Bavaria country houses can be seen protected with many stanchions like prisons, which was a consequence of the Seven Years War. Walled towns—where the people could not spread laterally and tried to do it perpendicularly by building house upon house—also tell their own story; and so do those Jews' quarters and the places of privilege which retain their gates and walls within cities.

The Orders.

The proportions of the principal members of a Greek temple were determined by rigid geometrical rules, in which was conspicuous the very systematic genius of the Greek people—lovers of proportion and symmetry in every sense of the words. At the same time these strict geometrical principles lent themselves very readily to the gratification of æsthetic sentiment, and fell easily into a series of combinations, of which the chief examples were the Doric, Ionic and Corinthian orders. Each of these orders resulted logically from the various proportions assigned to the column. The Doric order, in which the height of the column is less than six times its diameter, expresses solidity, severity and strength. The Ionic, in which the height of the column is eight or nine times its diameter, expresses lightness and elegance. The Corinthian column is still more slender than the Ionic. All the parts of the column in each of the three orders were so conceived as to contribute with absolute certainty to the general effect. Thus the Doric column, like a tree springing from the earth, has no base, and its capital is confined to the slight enlargement which is absolutely necessary for the support of the entablature. The Ionic column stands upon a base and possesses a capital of volutes, which recalls ideas of flexibility and grace, but is still far from possessing the richness and magnificence of its Corinthian rival. The logical development does not end here. The dominant idea expressed by each order of columns becomes in a sense the motive for the whole monument, thanks to a series of mathematical calculations proceeding naturally the one from the other. The character of sturdy strength which distinguishes the Doric order became progressively attenuated through the Ionic and Corinthian styles, and gave place to the elegance and richness which is their special characteristic. Following a similar course, the severe ornamentation of the first-named order gradually developed itself through the other two, till, in the last, it came to border on exaggeration.

Early Mosques.

The first idea of a mosque was extremely simple. The Prophet's mosque at Medina consisted of a small square enclosure of brick, partly roofed over with wooden planks, supported on pillars made of palm stems plastered over. All that was needed was retirement from passing scenes and shade from the sun's rays It was not necessary that the whole of the square court forming the mosque should be roofed in, for the number of worshippers who remained for any length of time in the mosque would be small, and, for the brief periods occupied by the ordinary prayers, the open court could be used if the roofed portions did not afford space enough. The same principle was observed in the plans of the early mosques of Egypt. An open court for occasional use and roofed cloisters for the regular congregation were the essentials, and in the older mosques in and around Cairo we find this plan carried out by a spacious open court surrounded on the four sides by covered colonnades or cloisters. The mosque of Amr al Fustat (or Old Cairo) has been so repeatedly restored that it is not safe to draw conclusions from its details; but it is certainly as old as the tenth century in its main outline, which consists of an immense court surrounded by covered colonnades. The mosque of Ibn-Tulun, which preserves for the most part untouched its original form and ornament as completed in the year 265 of the Hegira (A.D 878), consists also of a vast open court surrounded by arcades or cloisters, which differ considerably in the details from the colonnades of Amr's mosque, but shows the same general plan. The mosque of the Fatimy Khalif el-Hakim, finished in 1012, resembles that of Ibn-Tulun in plan and many of the details, and the Azhar, though frequently restored, preserves its original colonnaded court of 971. The mosque of Edh-Dhahir Beybars, to the north of Cairo (1268), and that of En-Nasir Mohammad, in the Citadel (1318), are also of the arcade plan resembling Ibn-Tulun, and the same form was adopted by Kusan (1329), El-Maridany (1339), and Aksunkur (1347), for their mosques in the first half of the fourteenth century, by Barkuk at the end of the same century for his tomb mosque in the eastern cemetery of Cairo, and by El-Muayyad for his mosque (1420) in the Ghoriya. The plan of an open court surrounded by colonnades is, as will be readily recognised, simply a survival of the ancient Semitic temple, as we see in Phœnician and other ruins, and also in the porticoes surrounding the Ka'ba at Mecca. The Arabs naturally adopted the form most familiar to them, and also best suited to the climate and to the religious rites to be performed.

NOTES AND COMMENTS.

It is to be regretted that the French Government are compelled to be sparing in expending money on explorations in Algeria. All that has been done reveals the necessity of still more extensive operations, and at the present rate it is calculated that half a century will be required to complete the excavations. As a rule, not more than a sum of 50,000 francs is available for the work in Tingad, which has been called the French Pompeii. As a consequence the explorations have to be suspended in the month of August. The Government having assigned 500,000 francs to pay for the researches in Delphi, where the objects found by French archæologists become the property of the Greek Government, it is no wonder if many Frenchmen are dissatisfied at the favour shown to Greece. In Tingad there have been discovered the Triumphal Arch, the Forum, the great Baths and the market-place of the Roman city, and, above all, the Temple of Jupiter, with its channelled columns which were about 80 feet in height. There are still over a hundred acres to be excavated, but owing to the want of funds the work is to be done slowly. This year a somewhat larger sum than usual has been granted, and the success which has hitherto attended the official archæologists will of course increase the public interest in Algerian remains. The Government have also decided that the students of the French school in Rome are to visit Algeria and Tunis, and to take part in the explorations.

Members of the Greek Archæological Society have been examining the chapel of St. Meletios, which is about half an hour's walk from Athens, and the ancient graveyard of Kolonos. The place has great interest, for it was in Kolonos Sophocles was born and there he was buried. In his "Œdipus" he refers to the place. It is supposed that there the tragedy was mainly enacted. Antigone describes it to the unfortunate prince as a place which appears to be sacred—it was so thickly planted with laurels, olives and vines, and the nightingales sang so beautifully in the wood. A stranger in the tragedy also informs Œdipus that Neptune possessed it, and the god of fire, the Titan Prometheus. The place the prince stood upon was said to be the brazen way which was the defence of Athens, and the people of the surrounding country were supposed to pray that the hill which was crowned by Neptune might be their guardian, and on that account they all bore the common name of Kolonite. According to Pausanias the Temple of Neptune was burnt by Antigonus, but there remained two altars—one dedicated to Neptune, one to Minerva. Kolonos was the retreat of the astronomer Maton and of Plato. The hope is not yet abandoned that in the course of excavations some memorial of Sophocles may be discovered. Vases of his time have been met with, but they do not present scenes from his tragedies or incidents in his life.

At first sight it seems strange that a decision relating to a broker who was appointed to decide in a dispute about the quality of raisins (Pappa *v.* Rose) should be taken as determining the limits of responsibility of an architect. But in law apparent anomalies are common. That case was again invoked in an action brought by Mr. J. T. Chambers, an architect, against a client for the recovery of fees The defendant, while admitting the plaintiff's claim, counterclaimed damages for negligence, as it was said materials had been incorrectly measured, and the amount was in excess. The case was heard in the Holmfirth County Court, where the judge allowed the plaintiff his claim and the defendant his counterclaim. The architect appealed His counsel argued that when giving a certificate an architect was an arbitrator, and so long as he acted honestly he was not liable to an action for damage for want of skill. It was laid down by Chief Baron Kelly, in Pappa *v.* Rose, that it is for the parties themselves to take care that the person in whose judgment they confide should possess the requisite skill to exercise it properly. Defendant's counsel maintained that the architect was liable because when measuring up the quantities he was a servant of the defendant, and not an arbitrator. Mr. Justice Channell held that if the plaintiff was acting in a judicial capacity an action for mere neligence could not succeed. It did not matter that the person who acted as arbitrator had contracted obligations to one or other of the parties. The plaintiff was only liable for negligence so far as he was the agent for the defendant, but in acting as arbitrator between the builder and the defendant he was not liable. The builder had a right of appeal, according to the contract deed, from the architect's decision, but that did not prevent the architect from being in a judicial position in the first place. The architect's appeal was therefore allowed.

It is satisfactory to find so young a body of artists as the Pastel Society achieving the excellent display which is shown at the Institute Galleries, Piccadilly. The cause is owing to the number of the members whose standing in art has been long established. Where so much is excellent it is difficult to make a selection, but the drawing which will excite most attention is the head of a girl by Mr. G. F. Watts. Apart from its qualities as a pastel, it will afford gratification from showing that the artist's hand is as vigorous as when he made experiments in fresco, with which pastel has undoubtedly some relation. Mr. Edward Hopkins has several pleasing portraits which will bear comparison with any French or German works. Mr. Edward Stott's pastels are mostly small in size, but they show that his style is as well adapted to the process as to painting in oils. A visit to the galleries is enough to convince any one that the art of the pastelist is deserving of encouragement, and it is not impossible that the works seen in Piccadilly will retain their brilliancy long after many contemporary oil-paintings have changed colour.

An American engineer, Mr. W. P. Parsons, has given an account of his experience of a railway survey in China. The line proposed was about 740 miles in length. The Chinese Government allowed the party about 300 soldiers as a protection, and the same number of coolies were required. It was also necessary to have pioneers carrying placards warning the peasants against interfering with the surveyors. The line was surveyed in 77 days, or about 10 miles a day, but as most of the country traversed was level the work was not difficult. The engineers made it a rule never to sleep at an inn, and they spent the nights at the public examination halls, wayside temples or in tea warehouses. They met with numerous pagodas of about 100 feet high which were built of solid masonry, but they must have been intended as landmarks or memorials, for it was impossible to enter them. The party found many houses on the river banks which were built on slender poles driven in the mud. The river was subject to floods of 50 or 60 feet, and miles of the houses were recently destroyed and about 10,000 lives lost, but the houses have since been rebuilt in exactly the same place and manner. There were many ancient arch-bridges with perfect cut-stone voussoirs. The spans were of 50 or 60 feet, and in one place where the river had for 100 years flowed through a different bed, leaving the bridge high and dry, the Chinese continued to pass over it, climbing up at one end and down at the other. A curious wooden cantilever bridge of 70 feet span was seen, which was made of successive corbels overlapping each other and knee-braced at the piers. The corbels were built out far enough for their opposite ends to be connected by wooden girder beams. The road was paved with stone, but the timber was so much decayed it was unsafe to load the bridge heavily.

ILLUSTRATIONS.

WESTMINSTER ABBEY: TRIFORIUM, SOUTH TRANSEPT. NORTH SIDE OF CLOISTERS. PART OF OLD ARCADE IN CHAPEL OF ST. EDMUND.

ST. JOHN'S CHAPEL, MATLOCK, DERBYSHIRE.

THE LINEN AND WOOLLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX: THE ADMINISTRATIVE BLOCK BLOCKS NEXT HAMMER'S LANE.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

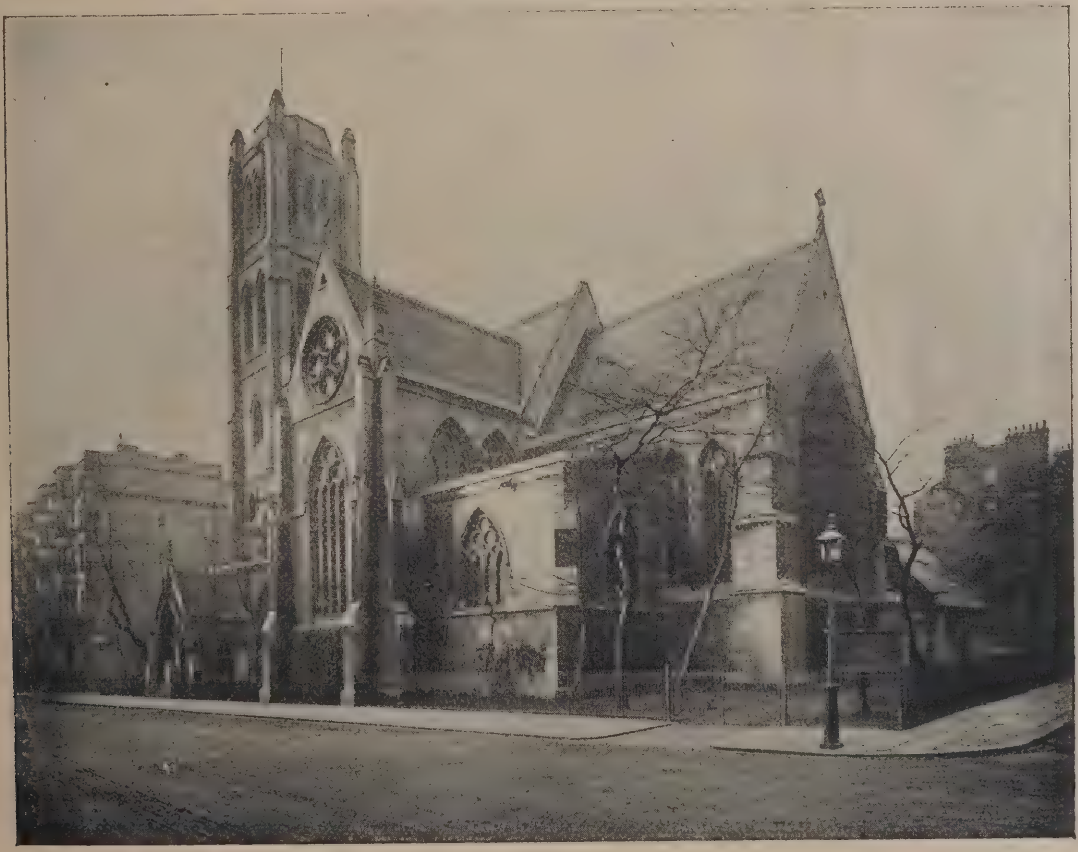
Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

The Works of O'Connor, Gibbs and Gerente.

(*Continued from page* 82.)

THE other window by Gibbs alluded to as possessing more than ordinary merit is at the east end of All Saints, Kensington Park.

Not only is this church the largest and most sumptuous work in London with which the name of its architect, the late Mr. William White, F.S.A., is associated, but one of the most beautiful and strikingly abnormal in the western districts of the Metropolis. Built of smooth hewn ashlar, judiciously relieved by bands of a pale red stone from Somersetshire, All Saints may also be cited as one of the earliest of London churches to demonstrate the importance of constructional polychromy.



All Saints, Kensington Park, from S.E.

It was begun in 1852 through the munificence of Rev. Dr. Walker, whose church of St. Columb Major, Cornwall, may have furnished the architect of All Saints with his *motif* for certain details, though at the same time there is much in this fine edifice indicating a desire on Mr. White's part to strike out a path for himself.

The church, which cost upwards of 20,000*l*., is but a portion of a grand scheme conceived by its founder, viz. the erection of a group of collegiate buildings for the education primarily of choristers, much on the same plan as that so successfully carried out by the late Sir Frederick Gore Ouseley, at Tenbury. Pecuniary difficulties arising upon the completion of the church (in all essentials) about 1854, the noble idea conceived by Dr. Walker had to be abandoned, the works coming to a standstill, and the nucleus of the intended group left isolated and unglazed until towards the end of 1860. The broken thread was then in some measure taken up, and the shell of the church—imposing even in its inchoate condition—completed and fitted under the direction of an engineer officer (!), and consecrated April 9, 1861.

The resumption of the works at this majestic fabric, its furnishing and the setting of it apart for the service of the Most High, were matters of great rejoicing to churchmen resident in this quarter of the town; for, deficient in taste as these works were—evident in the strange colouration of the northern aisle and the glazing of the clerestory*—it is gratifying to record that the religious and ritual idea on which this fine building was planned by its founder was not crossed by those into whose hands it passed, for it has ever since sustained a reputation for the excellence of its choral service, the dignity of its ceremonial—corrected and ripened by years of experience—and for the well-managed parochial machinery of which it forms the imposing centre. Improvements, too, have taken place in its furniture and fittings of late years, but there is still not a little in this department that requires amelioration.

All Saints Church, although conceived by its architect in the pure and bold Middle Pointed style of the latter part of the thirteenth century, presents, as mentioned just now, several striking departures from established precedent. These are observable chiefly in the still unfinished steeple and in the treatment of the nave arcade and clerestory. In the latter the architect introduced, placed close together, six rather low windows composed of four plate-traceried lancets beneath a containing arch. The inner pair of lancets is trefoil headed, subarcuated, and surmounted by a trefoliated opening, the one on either side being simple, while the space above it is left unpierced externally, but relieved internally by mosaic work.

The plan of All Saints embraces a nave of four wide bays with rather low, broad aisles, south porch and western steeple; a chancel similarly aisled, and projecting from it a short, square-ended sanctuary. There are transepts in the last bay of the nave, but gabling as they do at a less elevation than it, and projecting but little beyond the line of the aisles, serve to impart variety to the external, and picturesqueness to the internal ensemble, without that sense of uselessness too often attendant upon the cruciform plan. Any idea of erecting the cloister and group of collegiate buildings seems to have been abandoned, for it was in anticipation of these entourages that the church was never equipped with a sacristy, a temporary building having been, until quite lately, used for this purpose. This indispensable appendage has now been provided, but at the expense of blocking up the beautiful window in the north chancel aisle, where the organ stands in lieu of in the transept, which was fenestrated with a large rose window placed high up in the wall, especially for the reception of that instrument.*

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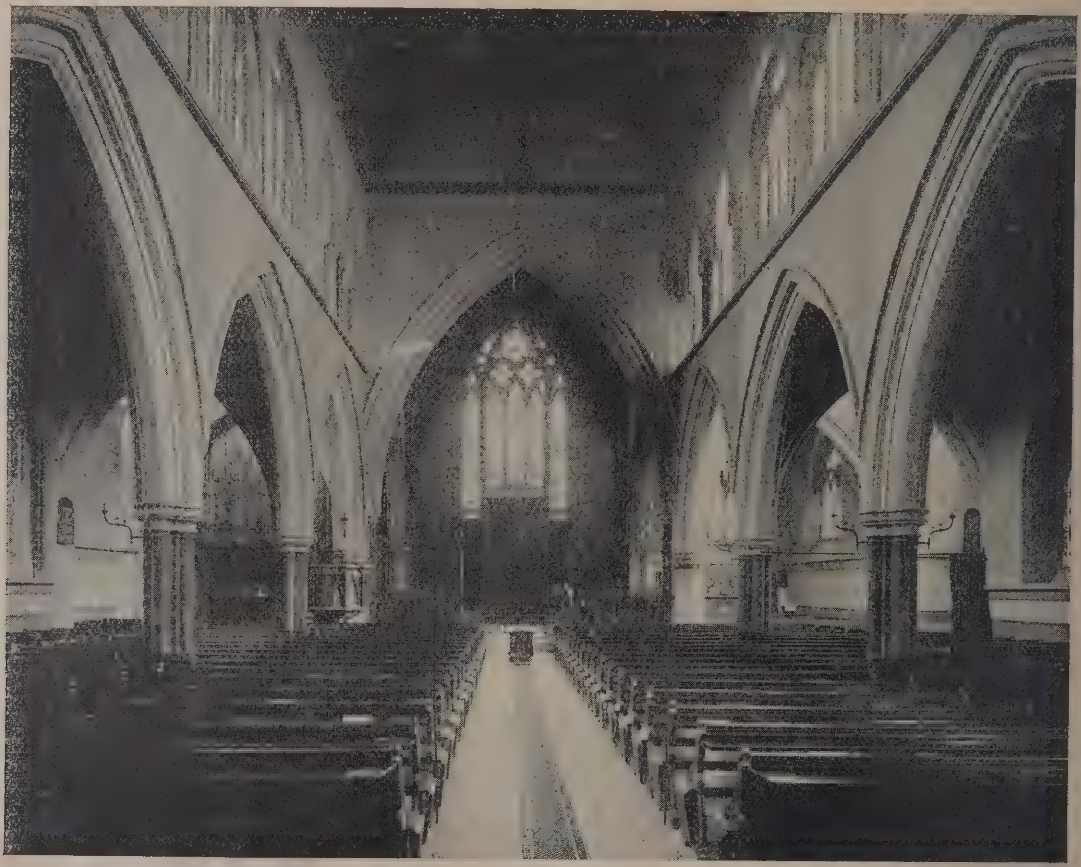
* This was effected by small panes of embossed white glass, most unecclesiastical in pattern and redolent of the glazier's shop. Within the last few years all this has been removed, and a very pretty flowered quarry glass, with a border of red by way of relief, substituted for it.

The tower of All Saints, even in its unfinished state, presents a most striking outline, recalling at a little distance that of St. Bavon at Ghent. To a great height above the nave roof it is carried up square, with a bold buttress terminating in a turret at each angle. This is surmounted by an octagon very fascinatingly arcaded, and showing some pretty natural polychromy, connected with the turrets by flying buttresses, and destined to carry a spire, a feature which from the proximity of the tower to the pavement can never become an accomplished fact except in some light material.†



All Saints, Kensington Park. Interior looking East.

Within, the tower opens into the nave by a very graceful arch on shafts of Devonshire marble, but we desiderate a groin here, an indispensable feature in such a position. From this point the view looking east, which is very striking, would be doubly so were a tall rood-screen of some light material present. During a recent visit to the church the writer observed one covered with evergreens for the Christmas festival. Temporary as this was, it was sufficient to show what a striking improvement a screen would be in a church possessing such breadth as All Saints; it seemed to increase its length in no inconsiderable degree, besides imparting that most essential factor in a Pointed building—an air of mystery.

In the common acceptance of the term this would hardly be called a large church, yet the architect contrived to secure for it an appearance of great size, effected in no small degree by the manner in which he carried his low, broad nave arcade across the entrance to the transepts, filling in the superimposed space with a deeply splayed arcade in continuation of the clerestory, after the fashion of some Italian examples, though such an arrangement, the writer believes, is not wholly unknown in England. These transepts, commensurate as they are in breadth only with a bay of the nave, have an air of great loftiness, due in some measure to their fenestration, which in the southern arm is effected by one large window of four lights and a rose above it, while that of the opposite one has already been alluded to. Another very striking feature in the fenestration—which throughout the church is most masterly, the tracery rivalling that of the old examples in boldness—is that of the northern aisle, where we have a continuous series of arcades, broken only by the door destined to open out into the cloister, and supported on slender attached shafts. Only the upper portion of the wall space behind these arcades is pierced with low plate-traceried windows of two lights, an arrangement dictated by the intended cloisters' abutment; but Mr. White's graceful piece of work here is ruined by the feeble painting and by the atrocious stained-glass, which in an extraordinary medley of styles, most of it in the most miserable and washy tinctures, and in places actually grotesque, has been allowed to fill this side of the church.

One or two of these windows are, however, tolerable, the pair nearest the west, whose artists can pretty well be guessed at, being all that show any ecclesiological knowledge of the surroundings, while the easternmost pair would be meritorious had less positive colour been introduced.

But the bathos of glass-painting may be seen in All Saints in a window by Ballantyne at the west end of this aisle, and in the eastern one of the south chancel aisle, a production of that most miserable of schools, the Munich; than this nothing could be more contemptible. It is, indeed, deplorable that a work of genius such as this church is should have fallen a victim to the vulgarising element exhibited by these windows, which, with its crude, bad detail, carried out by those destitute of proper knowledge or training and without feeling for its hidden beauties, did so much to bring the art of modern vitreous decoration into disrepute forty years ago.

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* When the church was opened in 1861 the organ stood on a loft in the south transept, its removal to the chancel being an event of quite recent date.

† The original design of Mr. White for this spire, together with details of the lantern, &c., was given in the *Building News* of September 15, 1876. To a severe criticism it may seem to be rather too tall for the building.

It is refreshing to turn from these feeble productions to Gibbs's work in the east window, a graceful composition of five lights, with the three inner ones subarcuated and surmounted by one sexfoiled and two quatrefoiled circles.*

Without being particularly remarkable in an iconographical point of view, the stained glass in this east window of All Saints, Kensington Park—inserted, by the way, about the year 1872—merits attention for the brilliancy of its colouring, the graceful drawing and pose of its figures, and for the perspicuity of the groups, especially of the three small ones, which, illustrating scenes in the Passion of the Redeemer, occupy the lower portion of the three inner lights. These have unfortunately been concealed from view of late years by the canopy which has been added to the reredos—a graceful work from the chisel of Redfern (c. 1878). Gibbs's treatment of the Session in Majesty, which fills the large circle, as well as that of the censing angels in the lesser ones, is extremely dignified, yet graceful; indeed, the whole work merited the encomiums bestowed upon it by several leading artists of the period that witnessed its execution. The wall space below this window on either side the reredos is occupied by a fresco by Mr. Henry Holiday, one of which, the Annunciation, is alluded to in the highest terms by Eastlake in his "History of the Gothic Revival;" it was, moreover, selected to form the frontispiece to that most fascinating contribution to architectural literature.

Beside the glass in All Saints briefly alluded to, there is another window by Gibbs, with effigies of Samuel, Solomon, Joshua and Moses, dignified and amply draped, but rather too large for the lights in which they are placed, above the west door. Then there is a considerable deal from the ateliers of Cox, their work, much too heavy and cumbrous, though superior to what has since been put up, filling the two four-light windows in the south aisle, the great northern rose and the couple of tall two-light windows on either side of the sanctuary, where, in two tiers, we have richly coloured and somewhat Düresquely treated figures of saintly persons. But nearly all these windows are disfigured by the placing on the sills of fulsome descriptions of the persons—many, the writer has heard, totally unconnected with the church—whom they commemorate.

The artist who, it is believed, inserted much of the work in the north aisle has recently put stained-glass into the large four-light window—formerly blocked by the organ—of the south transept. The iconography is good and appropriate, and the effigies therein represented—eight British saints—show careful drawings and hieratic treatment, but the backgrounds of sickly blue and the tawny canopy-work, which is most feeble in conception, are both very unpleasant.

[A pathetic interest attaches to the foregoing paper. The manuscript having been forwarded to the late Mr. White for revision very shortly before his death, the courteous letter accompanying its return, and which reached the writer on the morning of the day that he was taken away from earth, must have been the last penned by the distinguished architect of All Saints Church. With reference to this Miss Margaret White has since written to the author of these papers:—"My father passed away very peacefully from a sudden failure of his heart, due to his age. He was working up to the end. I am sure that your very kind letter, and the very appreciative notice of his work, which he read aloud to me, did much to make his last two days happier. I am so glad that the description of All Saints Church came in time for him to read, and I am sure that if my father had lived he would have been delighted to make your acquaintance."]

Requiem æternam dona ei, Domine: et lux perpetua luceat ei.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W., Mr. William Emerson, president, in the chair.

The Hon. Secretary announced the decease of William White, who was elected Fellow in 1859. Mr. White, said the speaker, was a very active and worthy member of the Institute and an architect of great repute. Some forty years ago William White was a conscientious and successful worker in the school of the Gothic revival. Perhaps there was no one who paid more respect to the principles of Welby Pugin.

It was agreed to send a letter of condolence to the relatives of the late architect.

The Royal Gold Medal.

The President said the Council proposed to nominate the Commendatore Rodolfo Lanciani, D.C.L. Oxon., Professor in the University of Rome and an Honorary Corresponding Member of the Institute, as recipient of the Royal Medal. The only other Italian who received the distinction was the Cavalier Luigi Canina in 1849.

The President's Address.

The President delivered his address to the students:—It is now my official and, I may add, also my pleasing duty to say a few words to our students, the younger members of the profession. In doing so I think it would not greatly advantage you were I to enter into the details of an architect's work in relation to the many subjects on which he may be called upon to exercise his talents, or were I to enlarge on my own experience in life and endeavour to explain for your benefit such things as, for instance, the points that should enter into your consideration when preparing plans and designs for an ordinary town or country house, though this is most likely one of the first subjects that many of you may be employed upon.

Nor do I propose to set forth my views as to what principles should be adopted in arranging a cathedral or church to meet modern congregational requirements, or what period or style should be your *point de départ* in preparing such a design, though this also is a problem which many who are ambitious will possibly early start upon solving. Neither do I think it would do any particular good to state on what lines I may think you should proceed in entering upon a competition, say, for a monumental structure, of the town hall or other public building type, which, nevertheless, is an effort that many of you will doubtless shortly make.

Any one of such subjects would form good material for an exhaustive paper, but all are details of the knowledge an architect should have, and may, or indeed must be, studied and thought out by the inquiring and perceptive mind of the student who is hoping to succeed in his profession. Besides I have no doubt you will hear from Mr Bodley many wise suggestions as to principles of planning and designing in the course of his critical remarks on the drawings submitted for the medals and prizes. What I therefore think of doing is rather to direct your attention to several essentials that lie at the root of the matter in the practice of architecture, if success and noble work be aimed at—almost first principles rather than details. I hope the few points I shall touch on may be found of some practical use, and perhaps elevate your thoughts in regard to the importance of, and the responsibilities attached to, your art and profession, and also perhaps be incentives to prosecute with vigour the necessary studies in the line of life you have selected.

The practice of architecture, I need scarcely add, is quite one of the most toilsome and difficult, as well as one of the most noble, worthy and interesting of all secular pursuits, and one in which the life and history of a people should be indicated more than in any other. To enter upon it is, therefore, a very serious step for a young man to take. Architecture is not solely a fine art, nor is it altogether simply a profession.

It has two distinct sides. The one is the artistic side, the other the practical and business side, and both are as essential to each other as the stomach to the head. I allude to this because one cannot help feeling that some of us appear to fancy that the sum total of architecture is comprised in the facile preparation of drawings that shall show well on paper. The design may be architecturally good, and artistically and correctly drawn, or it may be not good and trickily and untruthfully drawn, and also we appear to lose sight of the effect of materials and detail, and of the important fact that the practice of modern architecture includes, besides the artistic element (without which it can only be termed building), the necessity for a knowledge of a vast series of practical subjects. For instance, without a certain amount of legal knowledge an architect cannot safely advise his employers regarding contracts with builders, or in respect to the purchase of or dealing with building sites. He should understand the respective legal rights of tenants and owners of property, and the laws as to rights of light and air and adjoining owners. He should b acquainted with the sanitary and protective enactments for buildings erected under the laws of the Local Government Board and factory and other Acts, and under school regulations; also the legal points in respect to the rights of the parishioners and clergy in ecclesiastical edifices; neither can he ignore such legislation as the Workmen's Compensation Act, which has been found by our Council in dealing with the form of contract between employers and builders, and he must understand the legal side of the County Council's Building Acts if he ever can fathom it.

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* Probably suggested to the architect of All Saints by the typal one at the east end of Temple Balsall Church, which window was given by Mr. White in illustration of a paper on "Modern Design," read before the Ecclesiological Society on June 2, 1853.

I do not mean to suggest that an architect should be so complete a lawyer as to be competent to advise his employers in any intricate legal question arising through building operations—that would be neither advisable nor safe—but I do mean that he should have such an acquaintance with these matters as to recognise the obligation of attention to points in his schemes, plans and advice to his employers affected thereby; otherwise his ignorance or neglect may involve his employers, who should be his best friends, in serious difficulties and monetary loss. In the course of an architect's varied practice many of these questions are sure to crop up, and woe betide him if he has disregarded them, though to know them all may be the work of a lifetime.

There must also be a knowledge of the latest scientific inventions affecting buildings, of construction in all its details; materials, accounts, and the values of materials and labour But apart from all the practical matters and to turn to the artistic side, a wide appreciation of the beautiful in all styles of architecture is necessary for the enlargement of the views and to open the eyes as to what architecture in its highest aspirations really means.

My old friend and master, the late Mr. William Burges, used to point out to his pupils the necessity of knowing how to learn—the time saved by a knowledge of what was best to study—and he emphatically declaimed against the waste of time involved in making many pretty sketches rather than a few careful measured drawings of good examples.

A pretty sketch may show a certain effect; but, without dissection of the building sketched, how that effect is obtained can no more be understood than the working of the human frame without the study of anatomy. Burges also had a maxim that in art the thing that looks well is well. There is manifestly great truth in this. The false, either in architecture, painting, sculpture, music or literature neither looks well, sounds well nor reads well. And this is discernible to the cultivated eye and ear in regard to these, in the same measure that the false ring about a double-minded person is instinctively perceptible to the honest and truthful soul. All these points suggested infinite food for reflection to us, and it could not do students any harm to consider them now.

The practice of architecture should not signify to those adopting it just a means of livelihood, and consequently the obtaining of clients as the first consideration (no matter by what means), and the giving the least possible value in the shape of brain work with smallest trouble in return for their remuneration. Were this the idea bad builders might be evolved, but never good architects.

It should mean the putting of selfish ends on one side for the sake of the art, with a determination that no personal considerations shall weigh in the balance, providing in the best manner for our employer's wants at any amount of self-sacrifice, and building for them in truth and beauty to the utmost that may be in the capacity of the architect If you do not quite grasp the full meaning of this you cannot do better than study the works of our late Honorary Fellow Mr. John Ruskin, whose death we are lamenting, and more particularly his "Seven Lamps of Architecture," which include the "Lamp of Truth." All that he says need not necessarily be taken for granted, but all is worthy of deep reflection.

Further, it should also mean building not just for the present, but for the future, works that may last, and of such a class that future generations may form a high and not a low opinion of what we are as a nation. To arrive at this altruistic level of work means an exalted feeling of the value to others of beautiful architecture and the worth to the world of honest hard work.

There are several things most necessary for the student who has such high aims. First, there must be diligent study. Second, there must be the power of drawing. Third, there must be enthusiasm. And with all these there must be combined a high ideal of the responsibilities of the architect. Then, granted that you possess all these gifts, if you have not the spirit of architecture, you had much better leave it entirely alone; for if under the circumstances architecture paid you, you would derive no sort of satisfaction from it but the monetary one, and that can be obtained with less exhaustive labour in inferior occupations.

But with regard to study, and how, and what to study—and I am alluding now to the art side of architecture, not to the practical. In the latter the courses of study necessary for passing in the subjects of our examinations are known to you all. They form the foundation on which your art must be erected, and without which practical knowledge the art side is well-nigh useless. But besides these practical courses of study, all the subjects which a cultivated gentleman should have an acquaintance with, including classics, ancient and modern history, and literature, are equally necessary to educate the taste, to assist the imagination, and properly to comprehend the evolution of architecture. That all these are needed is clear when you reflect that all that can be constructed, from large architectural or engineering structures down to goldsmith's work and embroidery, legitimately comes within the province of the architect. All engineering works, bridges or otherwise, are the better for the architectural element being combined with them, and all architecture comprises some amount of engineering; neither can afford to ignore the other—also embroidery necessitates knowledge of form and design. This then means a vast range of study for the student But with regard to the study of architecture proper: it is well to begin by carefully examining any one style that attracts you, and to study it thoroughly from its commencement to its end—if you can find either. In reality you will discover, if you have any real zest in the work, that to find any beginning or any end you will be forced into the comparative analysis of all styles. If you do not consider Greek work you will not understand Roman; if you ignore Roman half the meaning of Romanesque and Byzantine will be an enigma to you. Unless you have studied all these thoughtfully you will really know but little. For instance, you would not understand how such a thing came about (though of no great importance) that the Classic entablature should have developed or, shall I say, have been compressed into the Gothic abacus; also without comparing Mohammedan work with Gothic many of the possibilities of the pointed arch would be unappreciated; and if the differences in the treatments of the Oriental and Classic or Italian domes have not been considered, you will miss seeing the potentialities of the dome or what might be done with it if you ever have the chance. And the origin of hybrid or deduced examples of architecture can only be understood by a knowledge of the purer styles from which they are departures

Therefore study all styles of architecture, and without prejudice. On one occasion some years ago I had been showing a younger architect some photographs of magnificent work in India He looked at them listlessly, and then said, "Well, of course we cannot feel any interest in Indian things after having seen the glorious Early French architecture in Normandy."

If a mind is so cramped as that, and there is the latent idea that all perfection of architecture may be found either in a Greek, Early French, fourteenth-century English, Jacobean, or a bastard Queen Anne, Georgian, or any other style, there would seem no redemption for so small a soul, unless perchance a change to thoughtful study and intelligent travel might compass it.

There is nothing more contracting to the individual's mind than existence in a small circle only, and nothing more cramps perception than imagining perfection to exist in one direction only.

Therefore the best of the various styles and their purest examples should be the subjects of the first most careful study, reflection and comparison by the student. The finest works in architecture are those which have perfectly suited the circumstances of the age and nation for which they were erected, were well and honestly constructed, stately and beautiful in proportion and detail, and truthful in the expressions of their purpose. And the best examples are those which are the purest, whether in Greek, Roman, Gothic, Renaissance, or any other period. In examining hybrid or deduced styles much of picturesqueness and interest is frequently found, but there is generally a something lacking of the greater elements of the finest architecture, either in simplicity and breadth, monumental grandeur or truth, which jars on the most cultivated and refined taste. In this, however, architecture only expresses something of humanity; the perfectly pure human would be somewhat above this world: so with our mundane needs, the absolute purist in architecture would find he could not altogether comply with modern requirements. Nevertheless, I reiterate that the purest examples of architecture are the most worthy of careful drawing and measuring by the student. Occasional eccentricities of detail sometimes, perhaps when even a trifle bizarre, lend now and again interest to the general harmony of a design, as a discordant note may give point to a passage in music; they are incidents which may be interesting and quite worthy of sketching, but as details or points of accentuation only, not as precedents with a view to give a general character or eccentricity to a design. I note this point because of late years debased or eccentric detail seems to have pleased the public taste, as well as that of architects, and appears to pass for style. It should be remembered that it is infinitely more difficult to design thoughtfully and effectively with simplicity and breadth of treatment, than to endeavour to hide artistic incapacity by an elaborate clothing of ill-adapted ornament, or by an affectation of originality of thought or eccentricity of form, to attract the attention of an unthinking crowd. So the first suggestion I make to you is, study most the best and purest examples of all styles of architecture.

Some time ago the one thing most prominently urged upon students of architecture was the paramount necessity for draughtsmanship, drawing first, drawing second and drawing last. This resulted in much good, and draughtsmanship has now been brought by many of you to a high pitch of excellence; but also, I think, some harm has resulted. Too great value seems occasionally attached to the effect, technique and execution of the drawing itself; and the quality of the architecture, a far greater thing, is sometimes apparently considered of secondary importance. This is entirely wrong. The effect of architecture certainly cannot be shown without good drawing, but draughtsmanship, however excellent, cannot make inferior architecture good. William Burges used to say there was only one man in whose architectural perspectives he could really understand the details, and that man was Axel Hermann Haig. Of late, however, many of our younger architects have done splendid work. Nevertheless occasionally, on looking at the numerous clever sketches made, something of the same feeling strikes me even now.

A good general effect of chiaroscuro is given; little touches of shadow are put in effectively, and impossible high lights and unnatural broken lines are introduced, mainly with a view to make a picturesque and pretty drawing, and not to truthfully represent the design. It thus becomes inferior artist's work, and does not represent the architecture. Often not much more detail can be made out than, perhaps, that it is Renaissance or Gothic in character, and that the windows have square or arched heads, either circular or pointed in shape.

But on examining one of Haig's drawings, say of Chartres Cathedral, there are also grand and picturesque and pictorial effects of chiaroscuro, but the high lights and shadows are true. Details are shown by clearly defined drawing, and mouldings are so accurately suggested as to be almost as plainly read as in a working drawing, whilst the statues are absolute portraits As architecture is largely composed of details, if a drawing slurs them over, and is indefinite, its vitality is in a great measure lost, and its utility sacrificed if intended for an architectural drawing, and it becomes merely a picturesque sketch of value simply in relation to its artistic quality and technique as such, not as a study of architecture.

The French understand this, and therefore their drawings of architecture are much more academic than ours.

I think our style of drawing is defective in many ways. French drawings give by clean lines and properly cast shadows a fairly truthful impression of the detail, relief and projections of a building. By our method shadows are sketched in merely with a view to look pleasing on paper, and frequently convey a false effect of the cornices and other salient features.

Some years ago designs were mainly shown by coloured perspectives; then it was said they were so faked up by the artists that they were quite untrue representations of the designs. Consequently pen-and-ink drawings became the fashion. Messrs. Street and Shaw were the first and most conspicuous representatives of this style, and coloured architectural perspectives have practically disappeared.

But I would ask what can be more untruthful and misleading than a black and white line drawing of a building constructed of several differently coloured materials? A monotone design, no doubt, can be well shown this way, but is it not evident how misleading an etched drawing may be in representing, for instance, a design in red bricks and white stone? In the black and white it may look charming, yet when erected prove a most restless composition, owing to the spots, blotches and streaks of white stone sprinkled all over its surface. Now this effect in a tinted elevation or coloured perspective would at once be apparent; in the black and white it is unnoticed, and when the building is erected it possibly disappoints the owner and the architect also.

No doubt the reproduction by the journals has much to do with this matter. Colour does not easily photograph, whereas black and white comes out most satisfactorily.

Pretty sketching is very seductive and of infinite use, but it sometimes leads to a distaste for the labour of making careful measured drawings, truly a tedious business, but without which no really useful knowledge of how details cause effects can be obtained.

My second word to you this evening is, therefore, learn to draw accurately and definitely, as many of you already do excellently well, but do not neglect to supplement it by careful dissection and measurements. Also study the human figure, for more than all else that instils a fine sense of proportion. But above all do not let sketching run away with you, or mistake drawing for architecture; it is not; but simply a means to an end, and bears the same relation to it that an alphabet bears to a language.

The third essential I would put before you as imperative to the successful accomplishment of noble architecture is an unlimited enthusiasm. If your work is to be worth anything at all there must be such an enthusiastic love for it that self and selfish considerations sink altogether into the background. Enthusiasm, derived from the Greek enthousiasmos, signifies "a God-inspiring zeal." If you look towards the sun your own shadow is unseen, being cast behind you; so if your mind's aspirations are steadfast towards a lofty ideal, through your entire possession by this God-inspiring zeal there will be complete unconsciousness of self in respect to your art.

And this is most important, for then the inspired desire will be simply to do the most perfect work according to your light, for the sake of art alone; other considerations will be only incidental to it, and eccentricities with the view of attracting attention to yourself, or of notoriety, will find no place in your designs, and your work will live.

This inspiration is manifest in the best and purest of all old examples of architecture, and proved by the history of the lives of some of the architects. For instance, how great must have been the zeal of Michel Angelo, to urge him on with his work amidst intrigues, jealousies, monetary difficulties, and family worries and disappointments.

If it were needful for the attainment of noble work in the simpler olden times, how very much more must it be indispensable to carry a modern architect through the arduous labour necessary for the production of one of the complicated buildings of the present time, with its manifold requirements, and to sustain a young man through the toil at high pressure, the anxieties of business, and the many certain and vexatious disappointments which meet every architect in these dreadful days of competition, and indeed most other persons on their way through life, whatever that way may be.

Further, it is all very well to fancy, as some appear to do, that architecture as a fine art is altogether apart from and above the sphere of such practical matters as drainage, heating and ventilating, electricity, hydraulic power, gas and water supplies and such like. Granted that it is on a higher level, nevertheless there is no important edifice, public or private, erected now to which these things are not vital. It has been well said they are the very nerves of the structure. If any building is to properly answer to its requirements it must be not only artistic but also scientific.

These scientific details require consideration by the architect from the very commencement of the inception of his scheme. Their introduction affects not only the plan but the design, and even details, and the ignoring of them or leaving them entirely to specialists to fit in as best they can in an imperfectly thought out arrangement increases the cost, often spoils the building, causes inefficiency in future working and vexes and irritates the employer.

But to grasp all these necessary and important details implies the thoughtful use of every talent with which you have been endowed and an infinite capacity for painstaking; and in neglecting these things for the absorbing interest of the art side of the profession the architect, as well as any other person who does not use necessary foresight in all details of his profession, no matter what his business may be, is not doing his duty either to God or his neighbour or his country.

Because these things are surrounded by practical difficulties, are troublesome and not particularly interesting, to lose heart or interest in the work and let them take their chance is an easy but downward course. The architect who does so is lacking in a sense of responsibility; but on such a sure and certain Nemesis waits Let noble architecture be your first consideration, but practical use should follow closely in the wake. It is enthusiasm which alone will insure the architect's retaining the love of his art and a lofty ideal amidst these practical difficulties and immense responsibilities inseparable from his profession, and that will enable him to do his duty not only by his employer but by the nation. Therefore, I say, foster enthusiasm and guard its door, for from it are the issues of the life of your art. An architect is not acting squarely by his country if he puts up hideous eyesores or insanitary or inconvenient buildings. It should never be forgotten that, if our buildings last, on the architects almost more than on any other workers will depend what verdict may be passed in the future on the character, artistic taste, culture, intellect and nobility of the British Empire of the time—whether we shall be reckoned by posterity as having been one of the greatest nations the world has seen, or as a small-minded, sordid, uncultured and superficial race. For these are exemplified by our architecture.

But one can only endeavour to act honestly and zealously according to one's capacities; everyone is not gifted with the highest talents, nor can all expect to be Michel Angelos or Giulio Romanos. Therefore never let failure damp your ardour; it is the best general who makes the fewest mistakes, but all must make them at times, so be not disheartened by errors or inexperience; only let them spur you on to further and nobler effort.

The true architect must ever aim at the highest ideal, if his work is to live, and with the greater knowledge and means of learning in this enlightened age it is possibly within the power of some gifted ones to approximately attain in some instances to their ideal. Be careful, therefore, what your ideal is. It should ever be beyond your best efforts. As Browning says—

> A man's reach should exceed his grasp,
> Or what's a Heaven for?

As architects the uttermost powers you possess should be exerted for your art; they are not given to do what you like with, but to use for the benefit of others, in everything, however small, and even though the work be not what you may consider sufficiently interesting to call for the highest endeavour. You cannot be waiting always for a great opportunity to exert yourselves. I came across the following words the other day, which I will leave with you as worthy of thought, for without some such sense of moral responsibility as is implied in them your work in life as architects or men will be deficient in quality:—"Our task in this life is to employ to the uttermost that human faculty, that human talent which has been given to us, and not to let it wait for some exceptional moment in which we shall probably never find ourselves, or we may die without ever knowing or dreaming what lies in the capacity of everyone of us to be, to dare, or to do."

Mr G. F. Bodley, A.R.A., read a review of the works submitted for prizes and studentships. While admitting there were various and beautiful delineations of ancient works, he said most of the designs for the Tite Prize wanted the indescribable charm, the picturesque feeling of old work, and there was a want of more idea and freedom. Similar remarks were offered on the drawings for the Soane Medallion. Mr. Bodley then read a part of a paper which was delivered before the students of the Royal Academy in 1885.

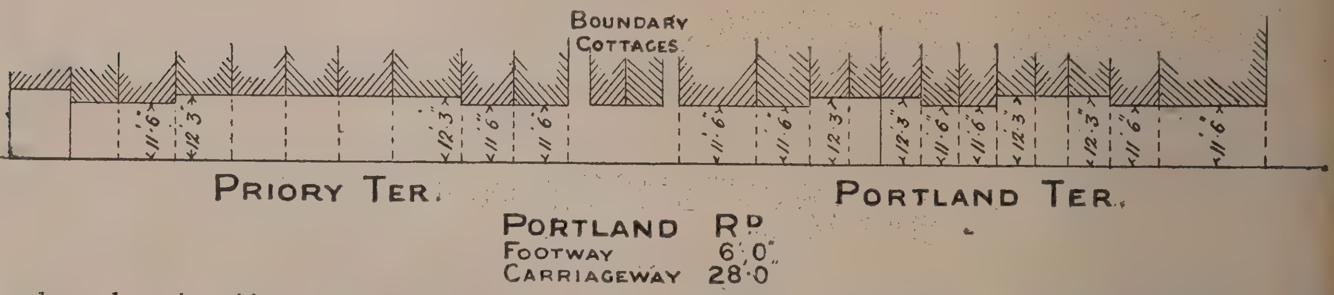
A vote of thanks to the President and Mr. Bodley was proposed by Sir J. D. Linton, and seconded by Mr. Axel Haig.

LEGAL TOPICS.*

(Continued from last week.)

NOW we come to the meaning of the word "prescribing." If a surveyor authorised by the Council comes along the road and points with his stick or paces out the line saying, "Thus far and no further shalt thou go," has he prescribed, or must he send for pen, ink and paper? He has duly prescribed and need not do so in writing. The authorities, however, must prescribe a line particularly in each case They cannot do so by a general notice or by by-laws, though they may possibly be able in certain special circumstances to obtain much the same effect by by-laws as to new streets and air spaces, as we shall see.

III. FEAR V FREEBODY "LINE"



Next, as to the word "line." It should hardly be necessary for a lawyer to teach you how to draw a line, but there is some law in this matter. In Tear or Sear or Fear *v.* Freebody (no one seems to know the plaintiff's name) the only decision as a matter of law with regard to the meaning of the word "line" was that it need not be a mathematical or geometrical line, but the case is in other ways instructive. The facts were as follows:—Portland Road (as you will see in our third diagram) ran from east to west. At the extreme east on the north side of the street was a house which plaintiff was building flush with the footpath, then adjoining it followed going westwards a row of nine houses called Priory Terrace. This row stood back some 11 or 12 feet. Of these houses the first two were forward, the next five back, the last two again forward. The forward houses projected beyond the backward houses by 9 inches. Then came a gap of 4 feet, and then two houses called Boundary Cottages, standing back some 11 or 12 feet, then another gap of 4 feet followed by Portland Terrace, whose houses also stood back some 11 or 12 feet. This last terrace consisted of twelve houses. The first a wider house standing forward, the second a narrower house also standing forward, then came three narrower houses standing back. Then came two narrower houses standing forward. Then came three narrow houses again standing back. Then a narrower house standing forward, then a wider house also standing forward. The difference between the backward and the forward houses was 9 inches. The backward houses of Priory Terrace and Portland Terrace stood at the same distance back from the pathway, and so did the forward houses. You thus see these buildings made quite a pretty design. The arbitrator found that each row, namely, Priory Terrace, Boundary Cottages and Portland Terrace, had a line of buildings, and also that all these rows taken together had one general line of buildings. These were the circumstances in which the judge decided that the line of buildings need not be a mathematical one. The judge also said that the object of the provisions as to line of buildings was to secure the ornamental character of the street. The Court evidently approved of the arbitrator's finding. I may, however, remark two things. It was not necessary for the case that all three rows should have one line of buildings. It was sufficient that Priory Terrace, which was next to plaintiff's house, should have a general line. Secondly, the question whether houses have a line is a question of fact, and therefore precedents cannot affect it.

Another rather curious case. A owned a pair of semi-detached houses and pulled one down. To the left lay the other semi-detached house, and beyond it, further left, a row of public buildings which retreated further back. To the right of A's houses stood a row of buildings in line with them. You would have thought that A could have built on the same site as before, since he had one house on one side and a whole row on the other to keep him company in a forward position. But no. He had to put his rebuilt house back to the line of the public buildings, thus making a most irregular line, for on the left there would thus be a row of public buildings standing back, then there would come A's untouched house standing forward, then his rebuilt house standing back, then the row of houses standing forward. The case, however, is a Scotch one, and this may be the Scotch idea of a straight line. The reason why it was so decided was that A's two houses were for this purpose treated as one building, and the untouched one was only considered as half a building, and therefore ignored as a factor in regulating the building line.

Now suppose that next to the house you have demolished, or whose front you have taken down, there stands not a row of houses, but a row of old sites, with perhaps a stone or two standing above their naked foundations. Can these interesting ruins be taken into account so as to set the line of buildings either forward or backward? Yes, they can. Unless the owner has clearly abandoned all intention of rebuilding on these foundations. A mere delay, however, of two or three years will not be evidence of intention on his part not to rebuild.

On the other hand, let us suppose that next to the house whose front you have taken down a builder is putting up a row of unfinished houses. Your business will be to begin to rebuild before he has finished or nearly finished, for an unfinished house cannot, according to reported decisions, be a governing house for the purposes of the Public Health (Buildings in Streets) Act, and I apprehend that neither can it be taken into consideration in prescribing the line of buildings under the Public Health Act. (Of course, these houses must be on new foundations, or they will come under the previous case.) Before the builder has finished his houses the authority cannot make you keep in line with them. After you have begun, the authority cannot prescribe for you at all. You will thus escape their attentions.

The urban authority can prescribe a line, but the rural authority can only do so if they obtain powers from the Local Government Board. You may, therefore, find that owing to the locality in which you are building you are free from anxiety on this point. Then as to the compensation. It need not be tendered when the line of building is prescribed. The amount is fixed by arbitration in the usual way. It is for you to consider whether it will be better to accept the compensation offered or wait for the arbitrator to award a greater or less sum, or to refuse the compensation and go to the expense of the piecemeal demolition and restoration which I suggested above.

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* A paper read at a sessional meeting of the Northern Architectural Association on January 17, by Mr. Algernon Barker, B.A., barrister at law, of Newcastle.

If, in spite of the luring bait of compensation, you refuse to set back your building after a proper prescribing the urban authority has two methods of punishing the owner and builder, but cannot punish the architect. They may get an injunction to restrain the continuance of the offending work, or to command the offenders to pull it down, but they cannot take the law into their own hands and pull it down themselves, except where it actually encroaches on a public way. They may also indict the owner or builder criminally. They can thus have his building pulled down by one court and punish him in another.

Counsel for the defence may have several ways of meeting the action or prosecution. He may defend on the merits by denying that the structure whose front was pulled down, or that the structure put up in its place, was a building as, *e.g.* if it was a small railing. Or he may show that the street in which it stood was not a "street" for the purposes of the prescribing method, or that it was not "in" that street. Or he may bring witnesses and adduce arguments to show that the building or the front thereof was never really pulled down, or that you did not vacate the site as far back as the authority wished to set you. Or he may show that the line has not been prescribed in time. What circumstances will you allow him to plead this point? Well, if you have done anything in the way of rebuilding, for instance, have put in fresh foundations or begun to build on the old ones, it will be too late for the authority to set you back. The principle is that the authority must not be trying to get you to pull down work innocently done in front of the line before they prescribed it and waste your labour. You can say, "Had I known I would not have rebuilt in front of the line." In the case that follows we shall see that even where you have begun to build behind the line previously to its being prescribed the authority cannot waste your labour by, not indeed asking you to physically demolish it, but by wishing you to abstain from doing that which is necessary in order to make your work of any use. You can say, "Had I known I would not have built as I did." The principle is the same. Suppose, for instance, you have pulled down, and then without having built anything, not even a foundation on the site of your demolished front, you have put up at the back of that site a building which absolutely requires some building or other in front of it as a necessary complement. For instance, you have pulled down a building, and the site of the front of such building still remains vacant, but you have already begun to build a nave of a church at the back, and the authority try to cut off the chancel and vestry which you intend to build in front of the nave by prescribing a line, and thus forbidding you to build on the site of the demolished front. The urban authority are not entitled to do this. They have prescribed too late, for though you have not begun to build on the front site, you can truly say to them, "You let me put up a building, and then try to make it useless by cutting off a necessary adjunct. I should not have put it up at all if I had known you would do this." But if, for instance, you have begun work on a school at the back of the vacated front site which the authority wishes to keep open, and the buildings which you wish to put up in front of it and of the prescribed line are merely annexes, such as a lavatory, which could either be dispensed with or put elsewhere, and which, of course, I am supposing you have not yet begun to build, the local authority can, in this latter case, prescribe so as to cut off the site of your intended annexes. Delay will be fatal to the authority, though they have not been guilty of negligence, and though the builder had good reason to know that they were thinking of prescribing a line.

Your counsel again might be able to show that before you began to pull down you had good reason, not merely from the inaction, but from the conduct of the authority to consider that they had no intention of prescribing a line, and that on the faith of this you were led to act as you did in pulling down. And, of course, if before you began to pull down you told them where you were going to rebuild, and they approved of your intention, they could not but lose their case. It may therefore be wise, and will usually be obligatory, before you pull down the front of a house to tell the authorities where you intend to rebuild. It has been decided, however, that the local authority could prescribe a line for a builder, after having just permitted another builder to erect a house in advance of the line.

We will now presume that the local authority has been punctual in the proper sense of the word, that is, neither too early nor too late. That you have come under the provisions as to prescribed line, and that they have drawn the line correctly. Can they keep the owner waiting an indefinite time for the writ, or perhaps for the policeman who is to lead him off? Well, of course, if they are suing to prevent a building being put up, they must do so before it is put up. Otherwise there is no limit to the time they may wait. Counsel for the defendant, however, will not omit to dwell on this delay with all the eloquence at his command.

If the case goes against you can you appeal? If the action is for an injunction you can, but if the offender is indicted there is no appeal except for technical defects.

I said that the authorities have no other remedies but the above, and I here repeat it. They cannot sue you summarily. They cannot themselves pull your building down. If they want it down they must go to the High Court. It is true that the Courts have held that an authority may refuse to approve your plans on the ground that they have contravened provisions other than those contained in the by-laws, but what of that? Disapproval is of itself merely a "brutum fulmen" The Legislature only requires approval or disapproval to be shown in order that the builder may not be in the dark, but may have a danger signal before the authority proceeds.

You may, however, have also brought yourself under the Public Health (Buildings in Streets) Act of 1888, or you may have broken some by-law in your rebuilding. In such case the owner will be liable to other proceedings as well.

This brings me to the question whether a local authority can set houses back by making by-laws as to new streets or new buildings. Can they by by-laws as to new streets set back an old demolished building, the whole of which you have pulled down to the ground floor? It has been held that they cannot by by-laws do without compensation and by a penalty what a section of the Act has allowed them to do with compensation, but for all this if in building your demolished house, or at any rate in building a house where none ever stood before, you proclaimed an intention of laying out a new street, then you may come under the by-laws. You will in such case be unable to build if, owing to the position of the house you intend to put up, you cannot do so without curtailing the street required by the authorities. They must, however, show that you had this intention of laying out a new street, either from plans which you have shown them and have begun to carry out on the land, or from work actually done in making or altering the boundaries of a road. They must also show that you would encroach on the actual footway or carriageway of the required street.

Next, can they set back an old demolished building by by-laws as to air space? Well, if you have not contented yourself with pulling down the front, but have also pulled down the rest of the house to the level of the ground, I certainly think they can. Any disobedience to by-laws renders the offender liable to summary penalties, and your building will be pulled down and the expenses of removing it be recoverable against the owner.

There is a method of setting back old buildings, and that is by compulsorily buying the sites, but with this we are not concerned.

(*To be concluded.*)

PHILOSOPHICAL SOCIETY OF GLASGOW.

A MEETING of the Architectural Section of the Philosophical Society of Glasgow was held in the hall, 207 Bath Street, on the 29th ult., Mr. Lindsay Miller in the chair. Mr. Jas. Cairns, clerk of works, read a paper on "The Clerk of Works—his Duties in Connection with Buildings." He began by giving a description of the duties of a clerk of works as compared with what it was in former days, pointing out that in order to fulfil the duties properly there was more need for technical training and a knowledge of building construction. He strongly recommended an extension of the sphere of labour in various technical schools, and then went on to compare what he called a jerry building with one of the best constructed in the city. He took occasion to point out that a number of fires occurred through downright carelessness in placing timber in close proximity to vents. Thereafter he proceeded to describe the principal materials now used in our buildings and the great changes that had taken place in the city within the last quarter of a century. Mr. Cairns traced the history of the manufacture of glass from the first century, and alluded to the extensive use of marble at the present time. Another point touched on was the development of the sanitary work in the city, and in connection with that he made reference to the good work done by the late Mr. W. P. Buchan. He gave a few hints as to the electric lighting of our principal buildings, and advocated the use of mechanical appliances in order to secure proper ventilation, that in some cases being impossible by natural means. The lecturer afterwards remarked that the building regulations of to-day had been a great boon to the city, although he was prepared to admit that in some small points these were unnecessary and oppressive. It was to be hoped that those to be placed before Parliament would be of great service in defining the line of our streets and the height of our buildings. At the close Mr. Cairns was accorded a hearty vote of thanks.

HAWICK ARCHÆOLOGICAL SOCIETY.

THE annual meeting of the Hawick Archæological Society was held on the 30th ult, the president (the Rev. W. A. P. Johnman) in the chair. The secretary's report showed that there were eighty-three annual and seventy-one life members, and the treasurer's report showed a substantial balance in favour of the Society. The question of reprinting the transactions of the Society from the first (1856) was remitted to the committee to consider. The Rev. Mr. Johnman was reappointed president; Messrs. James Oliver, Thornwood; R. F. Watson, Hassendeanburn; William Scott, Orchard; and D. M'B. Watson, Hillside Cottage, vice-presidents; Mr. J. J. Vernon, secretary; Mr. Alex Grieve, assistant secretary; and Mr. James Cairns, treasurer. The President referred to the arrangement which had been made between the Town Council and the Burgh School Board relative to the use of a portion of the Buccleuch Memorial for the science and art classes. He remarked that the interests of the Archæological Society had not been conserved to the full by the Town Council, and the Society would have to look after its interests in this matter. They were hampered for room, and it seemed to him that it was simply an impossibility that the Science and Art on the one hand, and the Archæological Society with its museum on the other, could be accommodated within the limits of this building. This was fundamentally their property; the Council were their trustees in conserving their interests. Mr. J. C. Goodfellow said that if the School Board had treated them in the same kindly spirit as the science and art committee there would have been no unpleasantness.

THE FORUM EXCAVATIONS.

TWO more large pentelic blocks belonging to an architrave of the Basilica Æmilia have made their appearance, says a correspondent of the *Globe*; and though much damaged by the third century fire, previously referred to as having destroyed the edifice, upon one of them are the remains of the name of (Æmiliu)s PAVL(us) cut in beautiful Augustan letters, measuring 23 centimetres in length; in fact, resembling those of the inscription to Lucius Cæsar. Behind the two Etruscan pedestals in the Comitium, and partly under the Niger Lapis, lies the base of an altar 12 feet long, made of the same materials as these. To whom was it sacred—Mars or Romulus? In the Regia further explorations at the north-eastern extremity (that is, near its chief entrance) have resulted in the discovery of a quantity of very early bucchero, or black pottery, on one piece of which, in archaic writing, is the word "Rex." It is written on the interior base of the vessel.

Having pierced an aperture some 15 feet below the present level of the door and floor of the church of S. Adriano (the "Curia"), the workmen here found themselves on the north marble pavement of Diocletian's Parliament House, as restored, be it recollected, after the fire under Carinus. It shows abundant evidence of having been repaired from time to time by his Christian successors, whose boastful inscriptions occur on all sides in large, ill-written characters.

By the time this reaches you the church of "St. Maria Libera nos a pœnis infernis" will be no more. Acetylene gas and the pickaxe will have well-nigh penetrated to the lair of the original dragon; and we shall be looking for the remainder of the stairs which led from the Temple of Castor to the Palace of Caligula, and up which the Vestals fled with their treasures during the great fire under Commodus, which destroyed their convent.

Correspondence

Blue Lias Lime.

SIR,—You may have seen the notice, of which we append a copy, in most of the building and engineering papers. We drew the attention of the trade to the subject to which it refers some few years ago, and, on the lines of action taken by the London Chamber of Commerce with the support of the press, were able to some extent to check the practice complained of, but of late it appears to have revived.

An association of most of the principal manufacturers of blue lias lime has now been formed for the purpose of preventing the sale of material other than blue lias lime under that name.

We trust the association will receive the co-operation of all nterested in good building and engineering work and in fair rading. Should any case of the nature alluded to come under your notice, we hope you will point it out to the association.—Yours faithfully,

GREAVES, BULL & LAKIN.

13 South Wharf, Paddington, W.: February 8, 1900.

BLUE LIAS LIME.

A CAUTION.

It having come to our knowledge that certain lime burners and merchants are selling as blue lias lime material which does not answer that description, we hereby give notice that legal proceedings will be instituted against any persons dealing as aforesaid after the date of this notice.

SHARPE, PARKER, PRITCHARDS, BARHAM & LAWFORD,
Solicitors to the Blue Lias Lime Burners' Association.
12 New Court, London, W.C.

GENERAL.

The Late Sir T. N. Deane's estate has been valued at 13,178*l.* 15*s.* 1*d.* After provision for Lady Deane, the residue of the property is left in trust for his five sons.

The Duke of Devonshire, Lord President, has appointed Sir William Richmond, K.C.B., R A., Mr. T. G. Jackson, R.A., Mr. E. Onslow Ford, R.A., and Mr. Walter Crane as a council to advise the Department of Science and Art on art matters relating to art schools and classes, the Art Museum and the Royal College of Art. He has also appointed Mr. A. Spencer, headmaster of the Municipal School of Art, Leicester, to be headmaster of the Royal College of Art.

A Commission has been appointed by the Bishop of London to report on the expediency of pulling down the church of St. Botolph, Aldersgate. It is proposed to unite the benefice with Christ Church, Newgate Street, and to utilise the valuable site for an extension of the General Post Office.

The German Emperor has had a stained-glass window erected in Dovercourt parish church in memory of the soldiers of the German Legion who died from disease during the Walcheren expedition of 1809-10 and are buried in the adjacent churchyard. A few months ago the Queen presented a lychgate to the church in memory of the British soldiers buried in the churchyard.

The Prince of Wales on his visit to the Artists' War Fund Exhibition at the Guildhall Art Gallery on Saturday last made bids for the following works:—"Bad News," by Mr. J. H. Lorimer, A.R.S.A.; "Oh! for the touch of a vanished hand," by Mr. C. E. Perugini; Bust of Lord Leighton, by Mr. T. Brock, R.A.; and "Shadow of the Future," by Lady Alma-Tadema.

The Dean of York has placed in the south choir of the Minster a mural tablet to the late Duke of Clarence. It was executed from the Dean's designs by Mr. Milburn, a local sculptor.

A Copy of Millais's early work, *Christ in the Carpenter's Shop*, has been sold by auction for 120 guineas. On the back of the canvas is written, "Copied by Miss Solomon, and all the head and great part of the background painted on by me, (signed) John Everett Millais." The picture was exhibited, and it is specially referred to in Sir William Armstrong's "Biography of Millais."

Sir John Whittaker Ellis has promised a donation of a thousand guineas to the newly-formed Benevolent Fund of the Surveyors' Institute.

An Action brought by Messrs. Royle & Bennett, of Manchester, to recover 144*l.*, fees for architectural work, was not defended, as the defendant's counsel assented to a verdict for the full amount claimed with costs.

A Paper on "Building in the West Indies" was read by Mr. John Todd Rea before the Architects' Association of Ireland on Tuesday.

A School for higher commercial education is to be built by the London County Council on a site valued at 14,770*l.* in the cleared area at Clare Market, Strand.

Royal Academy of Arts.—The attention of artists is particularly called to the following changes in the regulations for the delivery of works intended for the annual exhibition of the Royal Academy:—Water-colours, miniatures, black and white drawings, engravings, etchings, architectural drawings and all other works under glass must be delivered on Friday, March 30. None will be received either before or after that date. Oil-paintings must be delivered on Saturday, March 31, and Monday, April 2. None will be received either before or after those dates. Sculpture must be delivered on Tuesday, April 3. None will be received either before or after that date. All works of whatever kind must be delivered at the Burlington Gardens entrance. None will be received at the Piccadilly entrance. Hours for the reception of works, 7 A.M. to 10 P.M.

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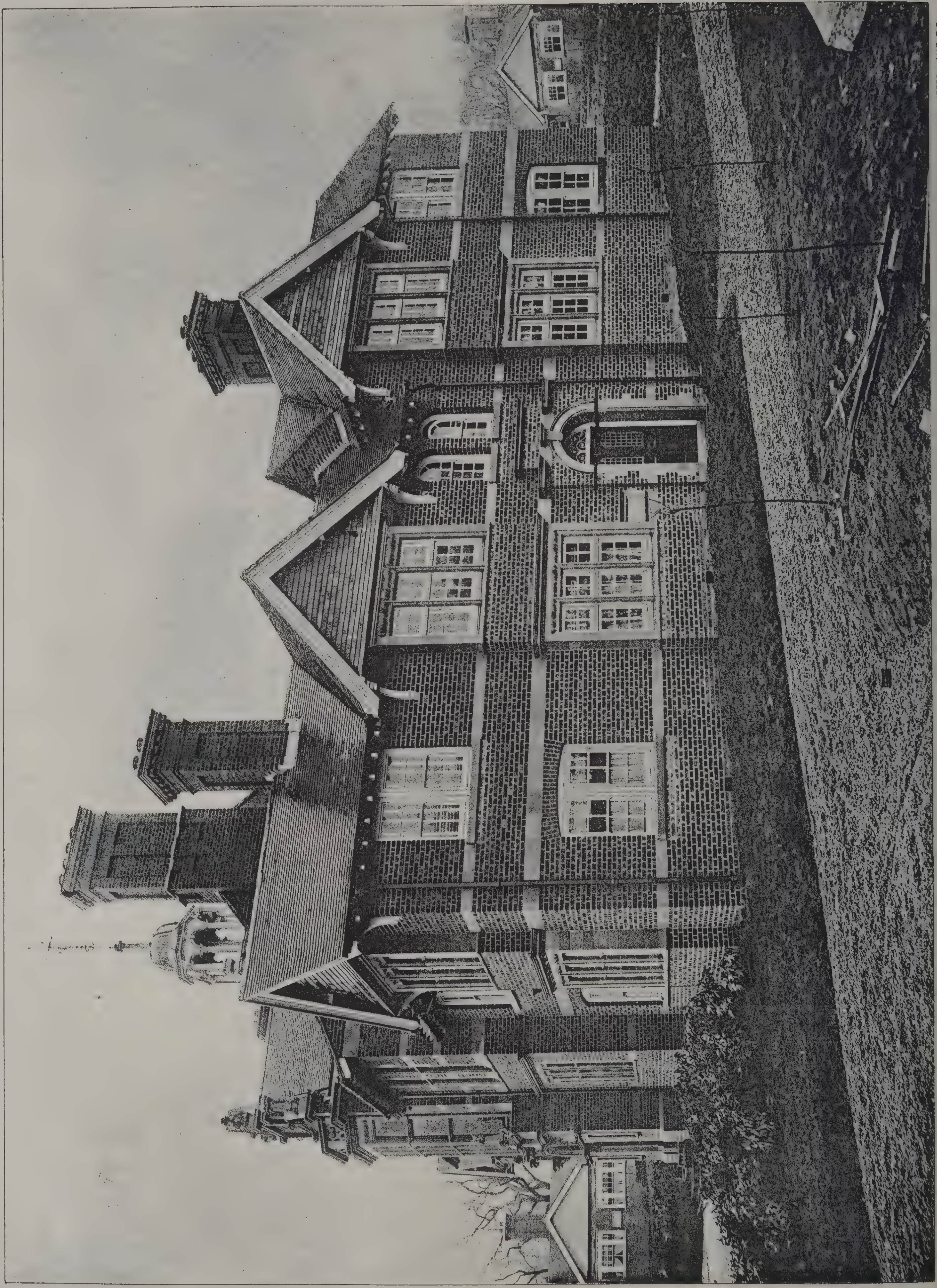
The Architect, Feb 9th 1900.



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THE LINEN AND WOOLLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX.

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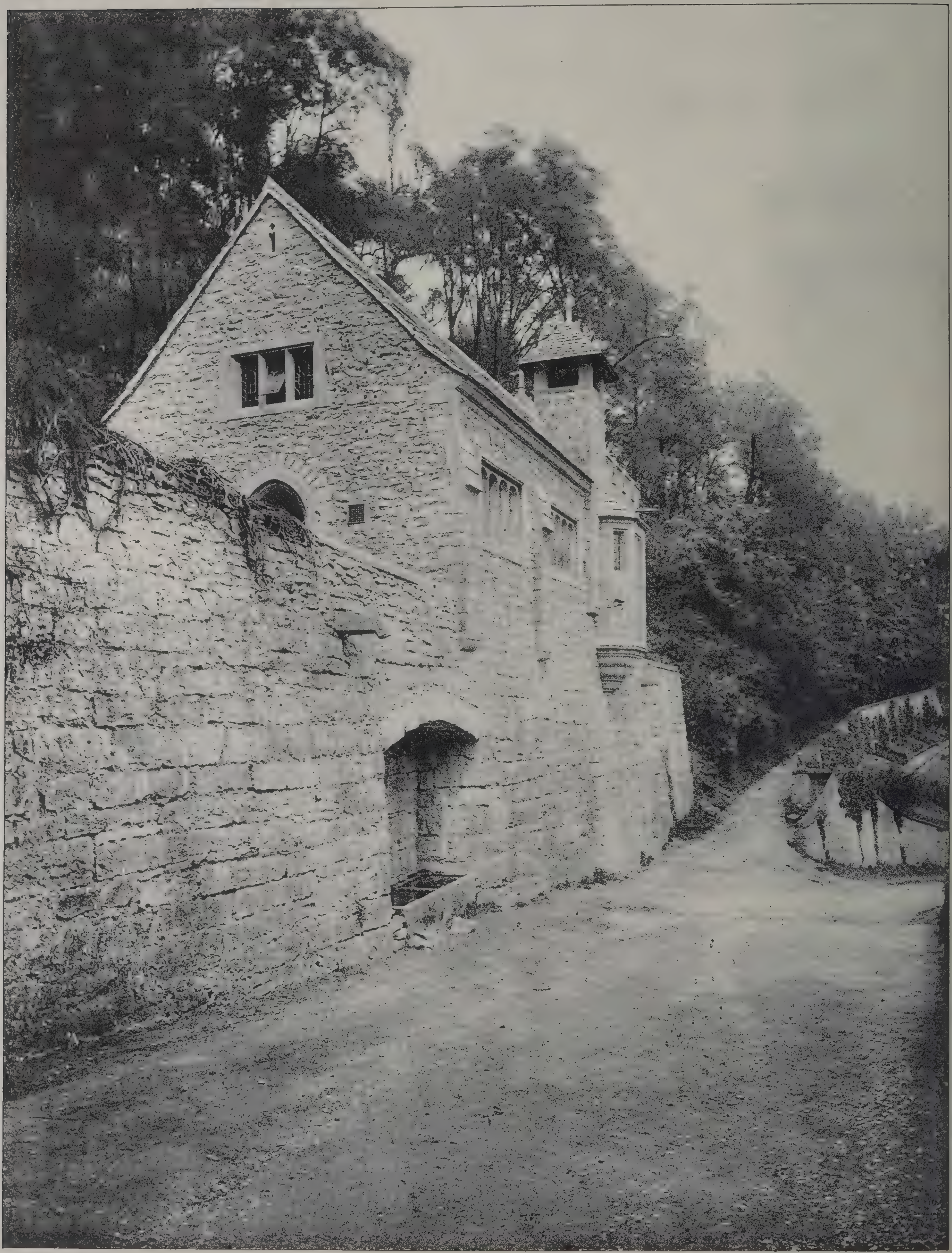

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ST. JOHN'S CHAPEL, MATLOCK, DERBYSHIRE.

E. GUY DAWBER, Architect.

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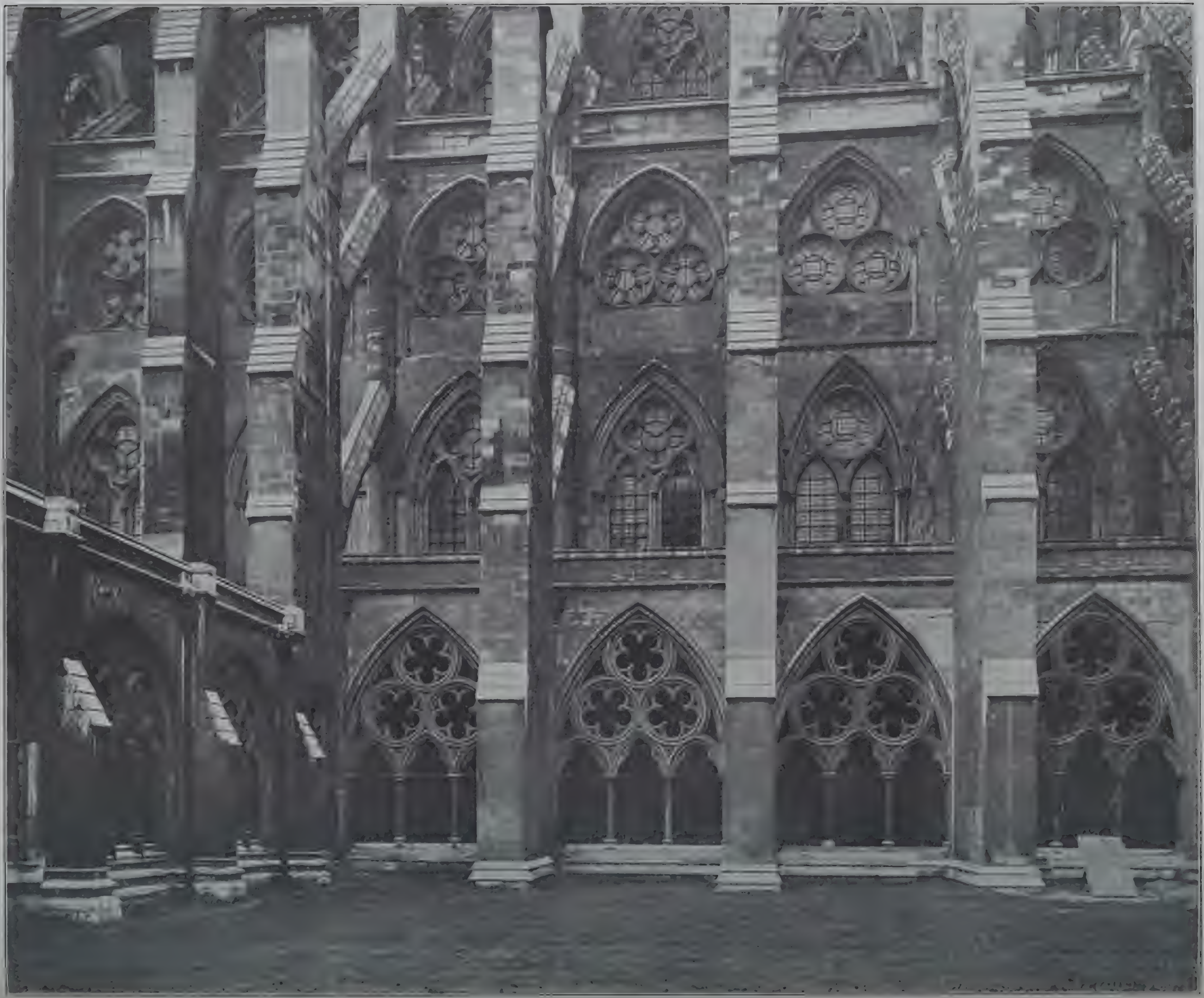

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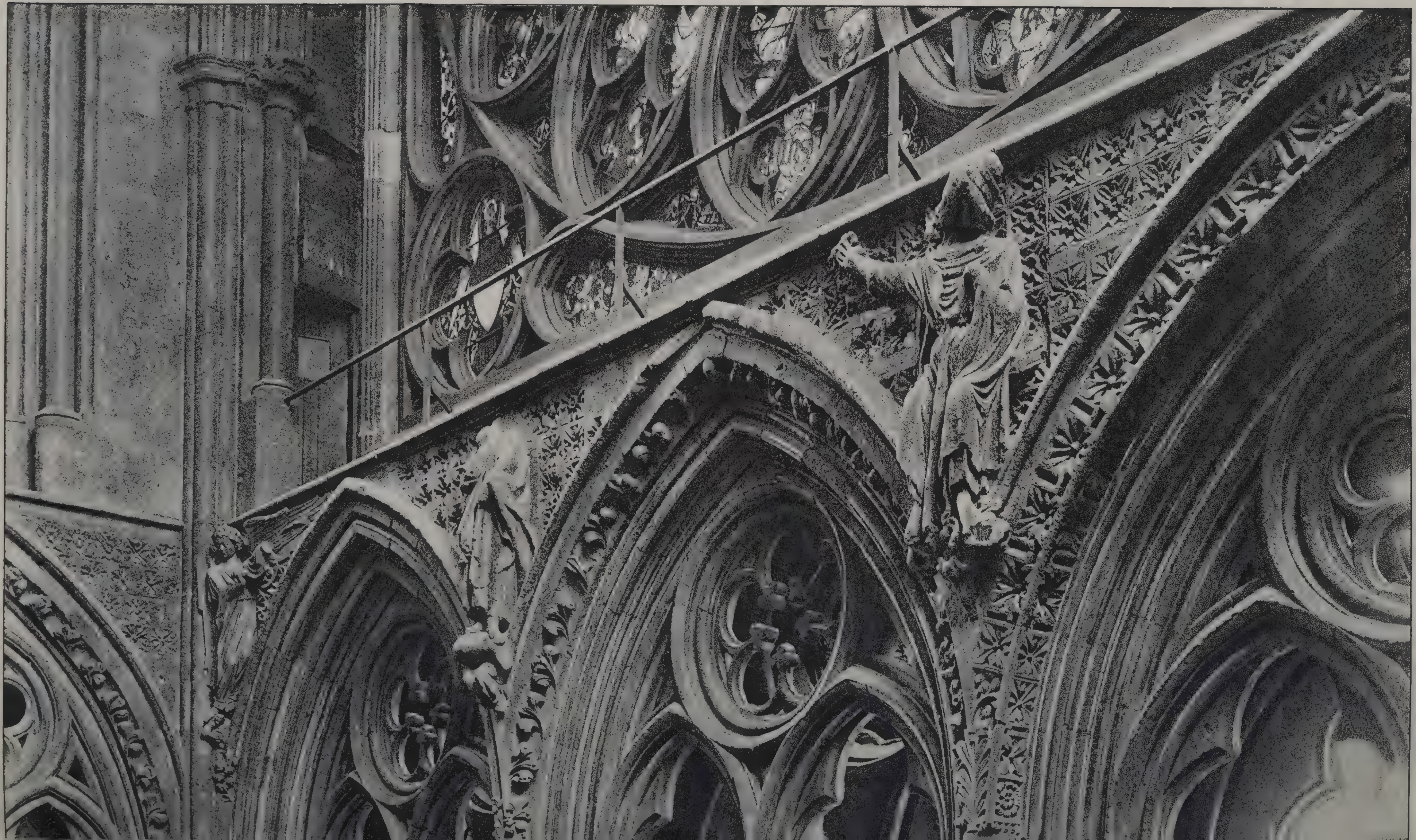

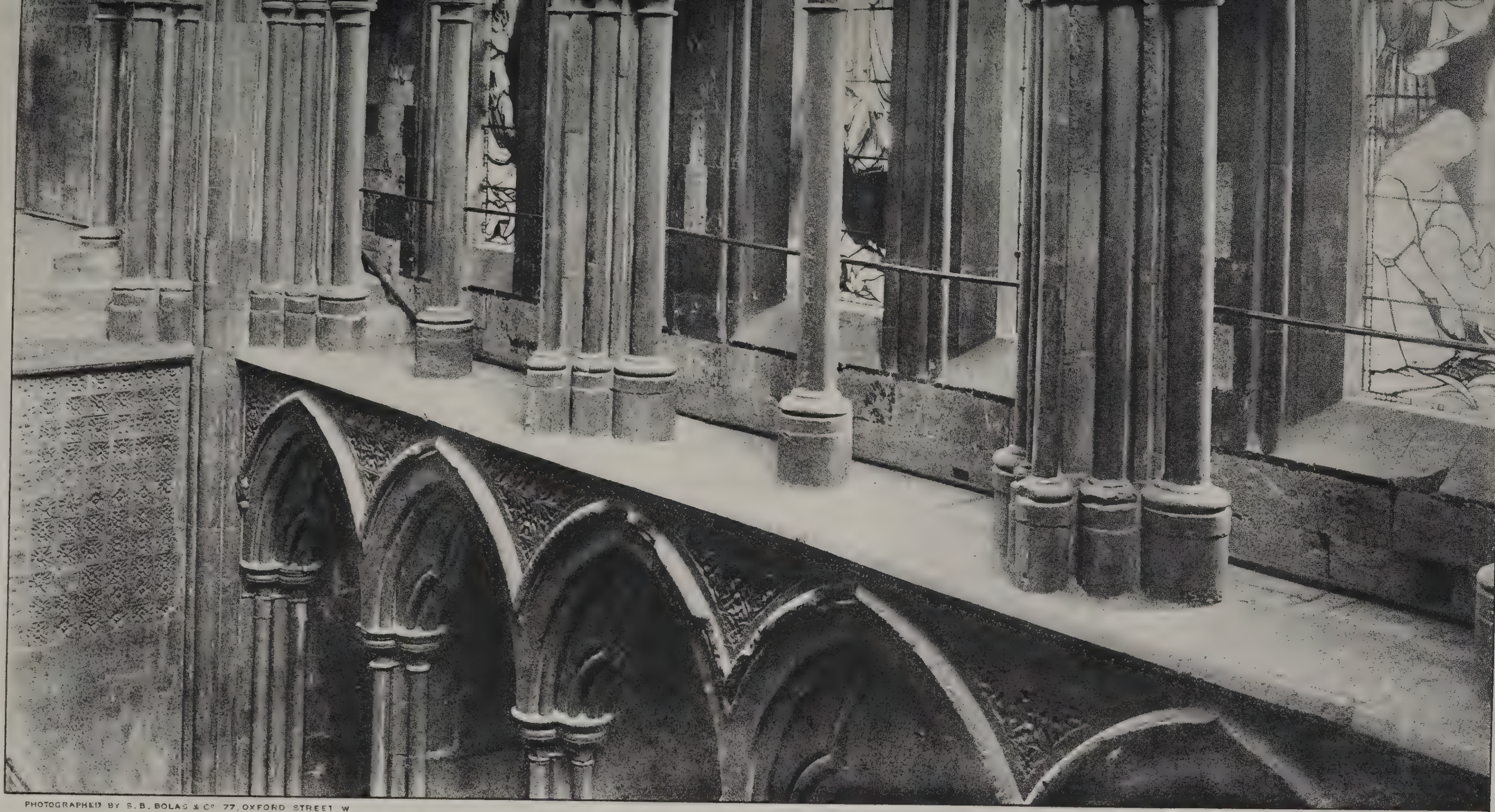

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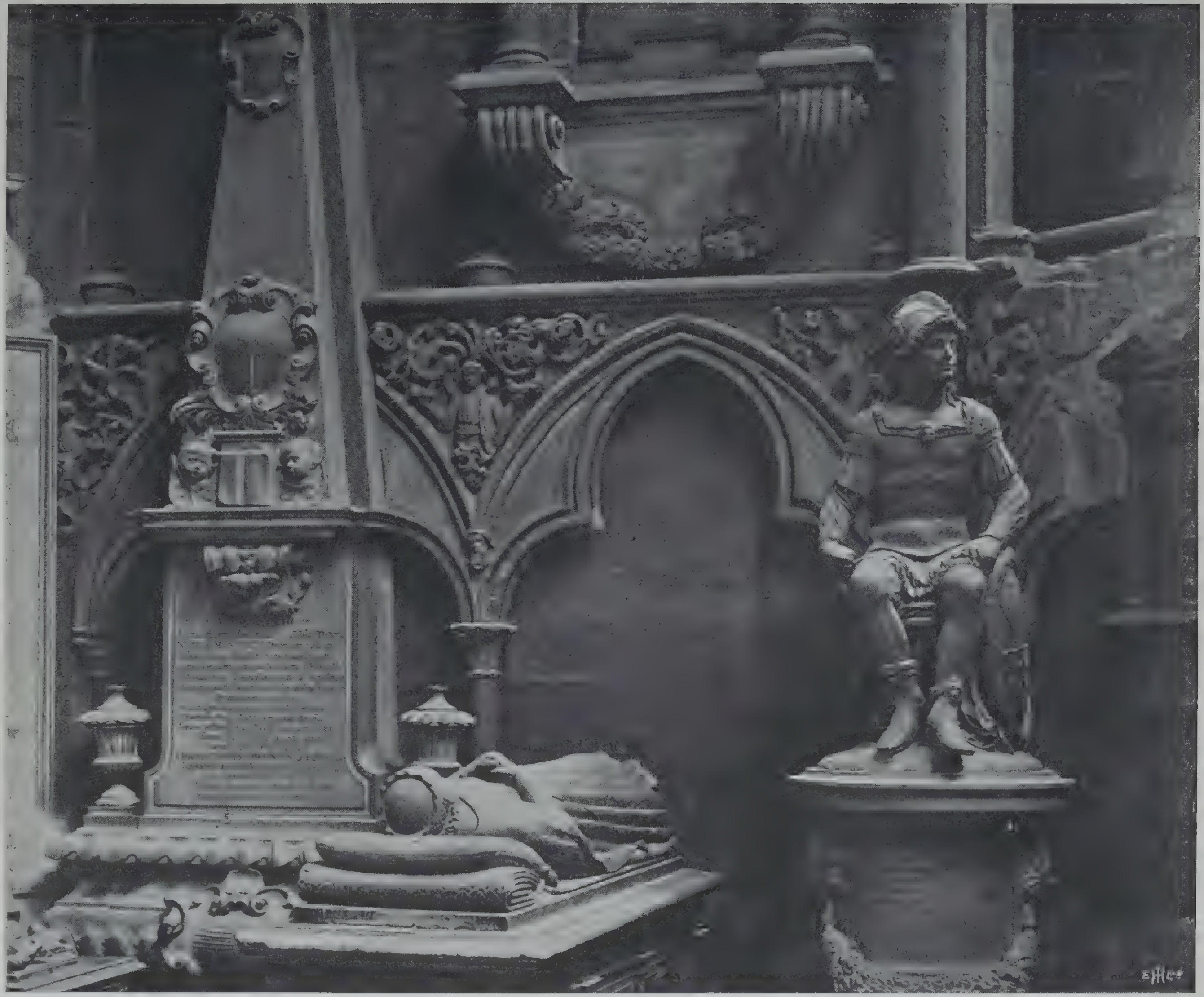
WESTMINSTER ABBEY, NO. 14.
TRIFORIUM, SOUTH TRANSEPT.



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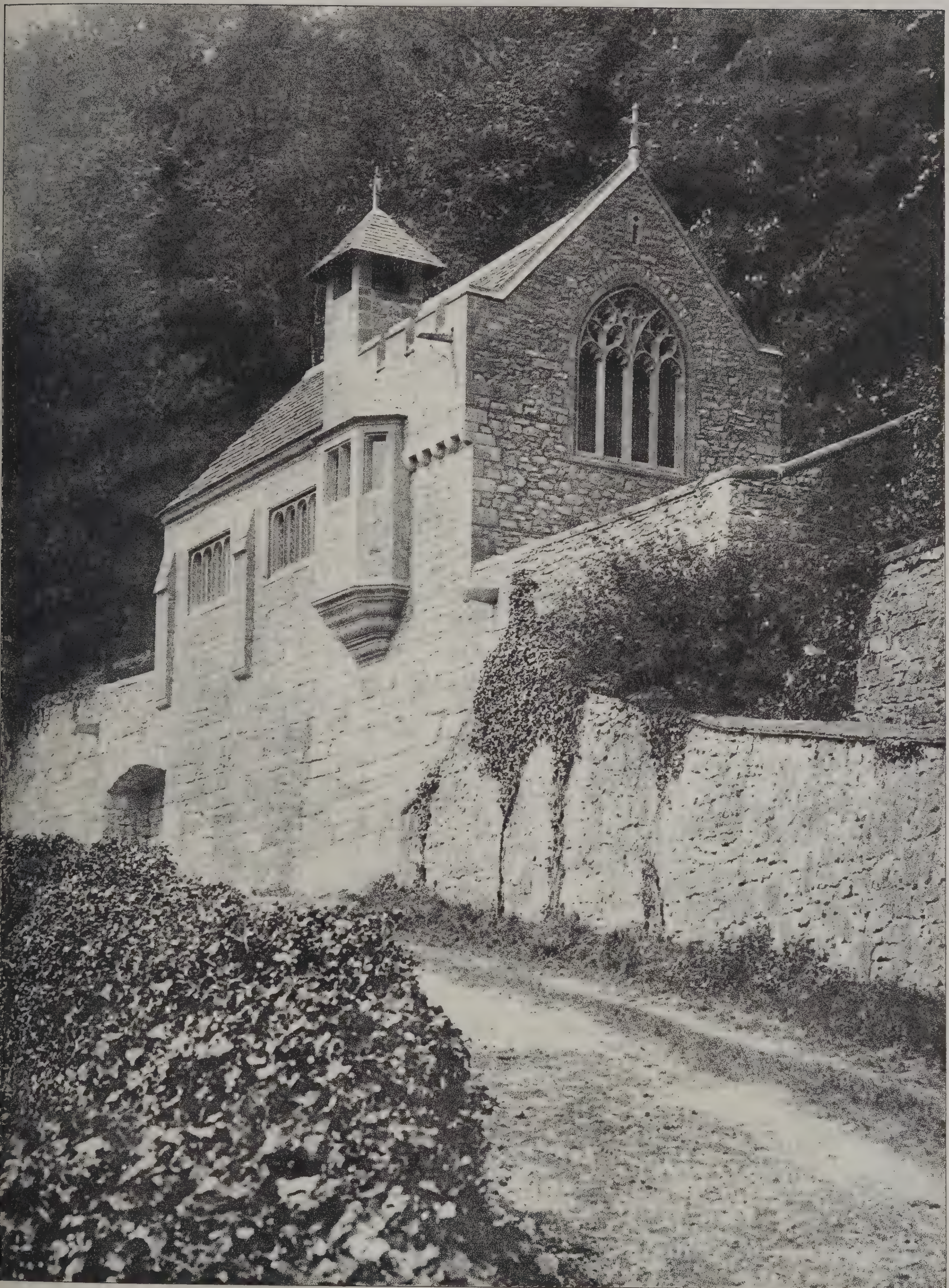
WESTMINSTER ABBEY, No. 16.

PART OF OLD ARCADE IN CHAPEL OF ST. EDMUND.

The Architect, Feb 9th 1900.



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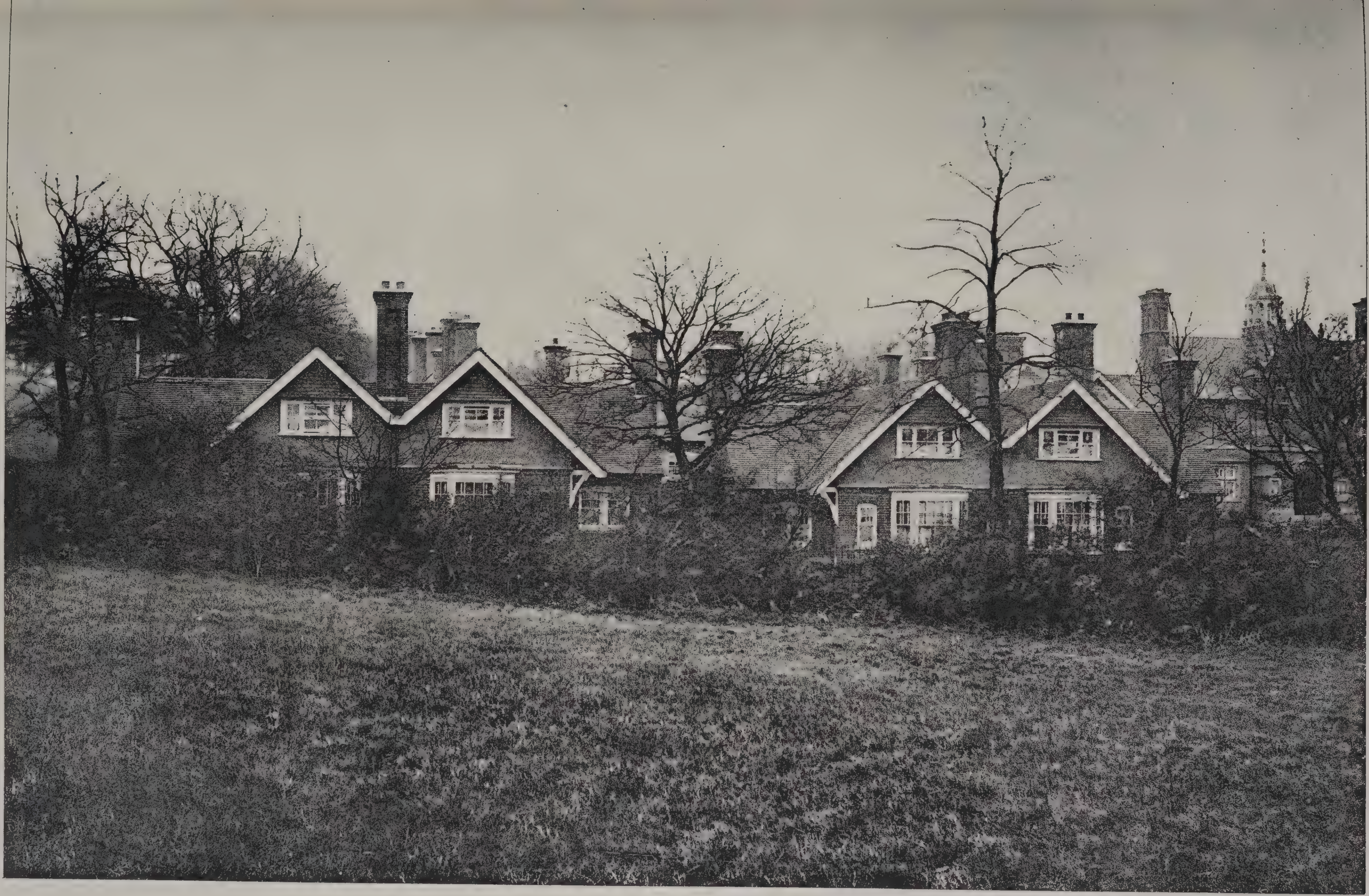
ST. JOHN'S CHAPEL, MATLOCK, DERBYSHIRE.

E. GUY DAWBER, Architect.



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THE LINEN AND WOOLLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX.

BLOCKS NEXT HAMMERS LANE.

GEORGE HORNBLOWER, F.R.I.B.A., Architect.

The Architect.

THE WEEK.

According to Section 74 of the London Building Act of 1894, "In every building exceeding ten squares in area, used in part for the purposes of trade or manufacture, and in part as a dwelling-house, the part used for the purposes of trade or manufacture shall be separated from the part used as a dwelling-house by walls and floors constructed of fire-resisting materials." Last year the County Council endeavoured to bring public-houses under the section, as they were used in part for the purposes of trade or manufacture and part for the purposes of a dwelling-house. As a consequence the case Carritt *v.* Godson was tried before Mr. Justice Day and Mr. Justice Lawrance, who decided that a public-house was outside the section. The case, no doubt, is of great importance, for there is so much gas employed in lighting those establishments and so many careless people frequent them, they appear to be liable to risk; but statistics prove that the number of fires in public-houses does not exceed the average number in ordinary buildings, whether for trade or residence. The County Council lately endeavoured to have the subject again considered. But the magistrate refused, on the ground that the Courts had already decided on the interpretation of the section. The Council then went before Mr. Justice Channell and applied for a rule. But Messrs. Snewin, the builders, appeared to show cause against the rule. Mr. Justice Channell considered the decision already given was right. His lordship discharged the rule, but gave leave to appeal. Sooner or later some way will be discovered to enable the London County Council to enter the Court of Appeal, and it may be higher Courts, in order to have further discussion on the subject, but meanwhile no one is disposed to facilitate their approach.

The fantastic Castel Bérenger, lately erected in Paris, and which excited more comment than any of its rivals in the competition among the most important houses, has been advantageous for the architect, M. Guimard. The directors of the new Underground Railway having to erect stations, resolved that they must not be of the ordinary type, from which Paris is not free. M. Guimard is exactly the man for such an enterprise. He is not over-respectful to precedent, and is not afraid of the grave looks of the judges, who represent the old academicism, when they see aberrations which are startling. His new buildings are likely to be as picturesque as a Swiss chālet, but instead of forms that are adapted to timber construction he will employ ingenious combinations and details which are attainable by the use of cast-iron, and it is expected will prove that the material deserves more consideration than it usually receives. In Castel Bérenger he has introduced metalwork, but all his figures are subsidiary to other materials. In his stations ironwork will have a very important office, and it is to be hoped that no apprehension of remonstrances from shareholders will cause the directors to adopt more sober arrangements than those of which they have approved. It will be a novelty to have railway buildings which are not oppressively commonplace.

According to a paper that was read last week before the Institution of Civil Engineers, the heaviest engine used for main-line passenger service in this country is the ten-wheeled Great Northern engine of 98·90 tons, equal to 1·71 tons per foot of length over buffers, and 2·04 tons per foot of wheel-base. Mr. Farr, the author, considered that the weight of the most recent and heaviest locomotives on British railways had, owing to the limitations of the loading gauge, reached its maximum. Any further increase of weight will have to be obtained by increased length and consequent increase in the number of wheels carrying the weight. The present time was considered to be suitable for suggested reconsideration of the rules for designing bridges, making allowance for impact and the other factors considered, and specifying the stresses permissible in the metal of the girders, using varying coefficients or factors of safety, preferably some modification of Wöhler's law, somewhat similar to the regulations governing the construction of bridges which had been drawn up by the principal European and other Governments. Attention was also called to the necessity of making some provision for the loss in sectional area which occurred when the girders were painted, owing to the thorough scraping and cleaning of the surface which was necessary for efficient maintenance, and which in the course of the life of a girder would have an appreciable effect. It was pointed out that the Board of Trade rules for railway underbridges, which at present governed their construction except in the case of cast-iron girders, made no allowance for impact, but that the girders were required only to be sufficiently strong to carry the heaviest locomotive, travelling crane or boiler-truck in use, calculated as a static load.

Mr. William Ewart Lockhart, who died on Friday last in his fifty-third year, could claim to be one of the accepted representatives of Scottish art. He was born in Dumfriesshire in 1846, and when he was fourteen he entered the art schools of the Edinburgh Trustees. He worked under Robert Scott Lauder, who was an able painter and an excellent master. But he was not disposed to follow any beaten track. He wished to have a wide range of subjects, and while he was in his teens he visited Australia, and then soon after he followed the example of John Philip and resided in Spain. His *Lovers' Quarrel*, which was exhibited in 1868, was a Spanish scene. It was admired in Edinburgh, and two years afterwards he became an Associate of the Royal Scottish Academy. He exhibited a scene from "Don Quixote" in 1875, and one in 1878 from "Gil Blas." In the latter year he became a Scottish Academician. He was not satisfied to confine himself to Spain, and a visit to Majorca enabled him to produce his *Orange Harvest*, which is a very brilliant work. Like so many painters who belong to the north, Mr. Lockhart considered London was the most profitable residence for an artist, and he came south. The commission from the Queen to paint the scene at Westminster Abbey at the Jubilee celebrations of 1887 made his name popular. Representations of an immense number of notabilities are rarely successful, but Mr. Lockhart's work merited all the praise it received. Most of the figures could be identified, and yet the painting did not suggest a coloured photograph. Mr. Lockhart was no less dexterous in the use of water-colours, and was elected an Associate of the Royal Society in 1886. He was a painter who seemed destined to produce greater works of art than those which bear his name, and his death causes much regret.

At the first annual dinner at the Edinburgh Building Trades Exchange, the principal toast was proposed by Mr. W. W. Robertson, architect. In his speech he described the present age as one of special and feverish legislation. How many Building Acts, he asked, had been passed during the last ten years? He had put that question to a member of the Town Council of Edinburgh, and the reply was, "I should think one every year." Mr. Robertson believed the councillor understated the case, but he submitted that they all suffered to a certain extent from over-legislation in regard to building. The continual unrest and disturbance in laws under which they lived in such matters as erecting dwelling-houses or ash bins in "back greens," or scaffolding to take down a chimney can, was something too awful to contemplate. The Building Exchange Association was doing its best to minimise this by giving a digest to its members of the Acts periodically promoted by the Corporation. He would almost go the length of suggesting that the Corporation should give their legislating proclivities a rest for, say, four years, so as to be enabled in time to come to bring forward somewhat maturer regulations. Mr. Peter Lawrence, the chairman, said he supported Mr. Robertson's statement regarding the restlessness of the present legislation in Edinburgh. All master builders present were aware of this, that from one year to another they did not know where they were in consequence of the actions of the Corporation. The complaint about over-legislation is no less applicable to other cities besides Edinburgh, and under the ægis of the by-laws the authorities of many very small towns exercise their fussiness at the expense of builders.

ARCHÆOLOGY IN IRELAND.

ALTHOUGH the time in which they lived usually offered more than enough duties to occupy them, it is remarkable that so many men were always found who appeared to be more fascinated with the past than with the present. It cannot, we suppose, be said that the archæologist, like the mason, is a type of existence, and that his calling is as old as the world. But we know that at a very early age men began to collect legends when nothing else could be found to exemplify former times. That variety of "curios" is not yet exhausted, for the folklorist can still claim to be an archæologist, and of the oldest known class. The labour of individuals becomes the more remarkable, for they rarely obtained any support from Government. The present, rather than the past or the future, has always been the principal concern of people in authority, and at the present day we find few countries in which there is any organised system for protecting the works which were executed by former generations of men. Some time ago we described the measures which were taken in various countries of Europe to protect antique remains, and it was manifest that the example set by France when the Historic Monuments Commission was formed has not been fully imitated elsewhere. It could not be said that even in Turkey there was encouragement of vandalism. But in most places it would not be difficult to disfigure one of the survivals of the products of a past age without incurring much risk. Nor can it be said that the French system is perfect. We constantly read of the destruction of old buildings in Paris, Rouen and elsewhere, which, in the eyes of archæologists, are important. Moreover, the system of conserving the buildings which come under Government care is often believed to be injurious to them, and a tourist is never certain whether what he admires in France is ancient or modern work.

In Great Britain the reverence for the rights of property has often been fatal to old work. A man is supposed to have the power to do whatever he pleases with his own possessions, and though he may act unwisely, he will not find that public opinion is inimical to him unless when he destroys or transforms something which has gained approval. Public bodies are in possession of privileges no less absolute than those of individuals. When cathedrals and churches were hacked and demolished under the restorers in the early part of the nineteenth century, with the intention of giving them a more refined appearance, there were very few people who had sufficient courage to raise their voices against the desecration.

In Ireland there were influences which were more fatal than any known in England. The old churches which were so abundant were disliked by the most intelligent of the inhabitants, because they were supposed to have at one time aided in upholding many superstitious practices. The people, to whom the churches should be precious from the associations, were not indisposed to utilise them as if they were quarries. Some fifty years ago THOMAS DAVIS, who, although an active politician, was a passionate lover of antiquity, described the ordinary custom of his countrymen in the following words :—"Daily are more and more of our crosses broken, of our tombs effaced, of our abbeys shattered, of our castles torn down, of our cairns sacrilegiously pierced, of our urns broken up, of our coins melted down. All classes, creeds and politics are to blame in this. The peasant lugs down a pillar for his sty, the farmer for his gate, the priest for his chapel, the minister for his glebe. A mill-stream runs through Lord MOORE's Castle (twelfth century), and the Commissioners of Galway have shaken and threatened to remove the warden's house, that fine stone chronicle of Galway heroism." During the time which has elapsed since those words were penned, various measures were adopted to save the relics of the past, and ostensibly they would appear to be successful. But the address which was delivered a few weeks ago by Dr. PERCEVAL WRIGHT as President of the Royal Society of Antiquaries of Ireland, reveals that old work continues to be neglected and is exposed to many dangers.

The Society was founded in 1849, and owing to the loyalty and energy of its officers it has often succeeded in rousing a great many people from lethargy and persuaded them to exhibit interest in archæology. The expenses of membership are trifling, but subscriptions are gathered with difficulty. If there were more members, and if the funds were a little in excess of the expenditure, good work could be accomplished.

But with all the improvement in the affairs of the Society it may still be doubted whether the ruins of buildings and other antiquities would be safe. The peculiarities of Irish government are not to be easily made serviceable for archæology, and the variety of authorities may neutralise each other when they all claim power to deal with the subject. For example, there was at one time a supposition that legally the ruined churches were the possession of the Ecclesiastical Commissioners, but if so, that respectable body appeared to think it was its duty to make no attempt to keep the masonry together. In 1869 it was decided to make over the charge of the old churches to the Commissioners of Public Works in Ireland, who are prepared to undertake any duty, from the construction of a harbour to the supplying of firewood. The intention was good, but as parliamentary draftsmen seemed to be allowed to try their 'prentice hands in measures for legislation in Ireland, everything that was supposed to be a national monument was vested in the Secretary to the Commissioners, his heirs and assigns. A provision of that kind was fatal to an Act for the conservation of ancient buildings, and the heirs and assigns of the favoured official might well be aghast at their responsibilities. Worse than a troop of white elephants were the round towers, cathedrals, churches, monasteries, crosses, forts, &c. It appears that a large sum of money was also assigned for the conservation of the buildings.

The Commissioners courageously assumed the responsibilities which legally belonged to the secretary and his heirs. They introduced the innovation of appointing an outsider to report upon the state of the buildings, and they showed discernment when they selected the late Sir THOMAS N. DEANE. Unfortunately it is not enough to receive a letter of appointment when a man is handicapped in many ways. Dr. WRIGHT tells us there was no office provided for the superintendent of ruins in which he could place his sketches, plans and photographs, which were records of his work. The course to be followed gave rise to many theories, and it might be supposed the foremost duty of the superintendent was to give way to everybody's judgment rather than his own. "To be a restorer of ancient monuments," says Dr. WRIGHT, "one should be sheltered by a triple coat of brass; but even the repairer of such requires a coat of mail." The explanation of his words is that in Ireland, as in France, crowds wish to participate in a single office, and the confiding to one individual the duties which could easily be made to occupy a great many was taken as a serious offence. Meetings were held; reports were prepared to show how much better the points of view for photographs could be selected if a committee were consulted in each case. The setting a stone upright which had been lying on the ground was taken to be too great a responsibility for the Commissioners and their superintendent unless they were aided by the various sections of archæologists. The Commissioners had to give way, and a committee was appointed. Dr. WRIGHT, who was one of the committee, declares he is not satisfied with the results of the transactions in which he has borne a share.

One of the reasons for his discontent is the uncertainty with regard to the legal aspects of restoration. Among the most important of the prehistoric works is Dunbeg Fort, co. Kerry. According to the Doctor, the operations have completely altered the character of that earthwork, but at the time they were expending money upon the fort, the Commissioners had no legal right to remove a shovelful of clay from it. It was not vested in them at the time, and as well as an outsider can judge their work was altogether illegal. Another case is the fine abbey of Mellifont. The ruins were not in charge of the Board, for they still remain the property of a private owner. No doubt it is well to have something done on any terms that will be an obstacle to further decay, but it is always well in archæological operations to have the support of the law. The Commissioners are empowered to do much for the improvement of landed estates and residences in Ireland, but the Acts cannot be twisted into a warrant for dealing with ruins which must remain private property. That the Commissioners in such cases have no footing is proved by the fact that last year, when an attempt was made to discover the Ark of the Covenant within the famous earthworks of Tara, they realised that they had no right to interfere.

It is easy to understand how the Commissioners of Public Works, with their almost countless responsibilities, which aim at the material amelioration of Ireland, should give only a very slight consideration to matters which do not affect drainage or fisheries or railways, and other requirements of the present time, and should be a little indifferent to operations which have so remote connection with everyday life. Since the Board of Public Works was first formed we do not believe there was one member of it who could be considered to have the slightest interest in archæology, or was competent to distinguish the style of a building from one constructed a hundred years earlier or later. In fact, there could be no more grievous charge brought against the Commissioners than to say they were antiquated, or possessed any sympathy with a state of things which could not bring material profit to landowners or their tenants. Owing to the character of the Board, we are glad to learn that Mr. Robert Cochrane, who has charge of the architectural department, has been appointed successor to Sir Thomas Deane. Some people may suppose that the holder of such an office will not have any more reverence for antiquity than the Commissioners. But it should be remembered that Mr. Cochrane has been for many years the hon. secretary of the Royal Society of Antiquaries of Ireland, and its success is in a large measure owing to his zeal for archæology. He has accomplished the very difficult task of inducing Irishmen to co-operate for one purpose, regardless of their religious or political differences. In his official position we are confident he will be no less effective. He will be able to explain to the Commissioners and to others in power how much is required to make law a supporter of archæology, and the criticism of amateur superintendents must become less bitter with a man who has given so many proofs of his capability both in construction and archæological research.

THE OLD BASILICA OF ST. PETER, ROME.*

When Viktor Rydberg, the Swedish author, visited Rome he was disturbed at seeing in the window of an evangelical bookshop which was opposite a cardinal's house the announcement "Peter never was Bishop of Rome." Although a Lutheran, Rydberg, as a man of letters and a lover of art and antiquity, looked with tenderness on old traditions. The effect which the words produced in his mind was to compel him to gather up the legends about St. Peter and St. Paul in Rome and to form them into a charming historiette. Ecclesiastical archæology has undoubtedly two divisions, and may be concerned with persons as well as with things. Unfortunately the personal side is commonly taken up by men and women (for Lady Morgan was not the only representative of her sex who has dabbled in the controversy about the connection of St. Peter with Rome) who have not had the advantage of a training in the science of archæology, and are unaware of the tests it demands. Fortunately for us, there is no need to consider the personal question in noticing Mr. Barnes's volume. It is sufficient for our purpose to know that in the time of Constantine there was a belief that St. Peter had lived in Rome, and was executed in the environs of the city. It may be said there is also a doubt about the emperor's erection of a basilica on the Vatican Hill which was dedicated to St. Peter. We have, however, a record in the "Liber Pontificalis" which, from its antiquity, would satisfy the English High Court of Justice as being acceptable evidence. It is also known that mosaics existed in which Constantine was represented as offering to the Saviour the new basilica, in which act he was supported by St. Peter. Nor must we omit to mention an inscription which was found on what we may call the chancel arch of the church, and which ran as follows:—

QUOD DUCE TE MUNDUS SURREXIT AD ASTRA TRIUMPHANS
HANC CONSTANTINUS VICTOR TIBI CONDIDIT AULAM.

Why was the Vatican Hill selected as a site? Two explanations have been offered. One is that there stood Nero's circus, which was said to be the scene of St. Peter's execution. But many of our readers have visited the lower chapel in the church of S. Pietro in Monterio, and will remember Bramante's circular building, the "Tempietto," that Baron von Geymüller calls a plaything, which was erected to enclose the surface where the cross was erected on that occasion. It is more probable the Vatican site was selected because it was there the body of St. Peter found a final resting-place after a rather long course of wandering in Rome. There is evidence forthcoming about the different spots where his remains were temporarily deposited. Considerations of safety would dictate removal of the relics from one hiding place to another during a time of persecution. At all events, in the Grotte Nuove beneath St. Peter's is a sarcophagus which from time immemorial is believed to have contained the body of St. Peter. . . . .

When in the beginning of the fourth century Constantine resolved to show reverence to the Apostle by the erection of a basilica, the tomb was part of a low building with two chambers. He respected the structure, although it was not likely to have much architectural character. It stood so near the Circus of Nero, it became necessary to demolish that work, and it is reasonable to infer that the apse of the new basilica was laid out above the structure. Although covered by the flooring of the church, the lines of the sepulchral building were indicated, and around them the early Popes were buried. Mr. Barnes says that "So far as can be ascertained the front of the altar—that is, of course, the western side—at which the officiant would stand facing eastwards down the church, was arranged to be exactly over the end of the sarcophagus below, so that the spot where the chalice would stand would be exactly over St. Peter's head." Bunsen, however, came to the conclusion that the Apostle's body was originally in a different position in an oratory belonging to Anacletus, for, according to Anastasius, the emperor exhumed the body in order that it might be interred beneath the altar of his new building. Against Bunsen's theory is the fact that a tombal chamber and small chapel still exist, and if there was exhumation was there any need to erect a structure of that sort, or to reproduce it from the earlier work? . . . .

What kind of building was erected by Constantine cannot now, except by inference from what is known of contemporary basilicas, be ascertained. The church was adorned from time to time, and the gifts of kings, popes and pilgrims may have much affected the original appearance of the building. The accounts which have come down to us relate mainly to the precious works which were added to the church. Thus St. Sylvester speaks of a cross of gold, weighing 150 lbs., which was given by Constantine. It is also recorded that Pope Xystus III. in the fifth century gave silver to the weight of 400 lbs., and the Emperor Valentinian offered a golden image with twelve gates and twelve Apostles, with a figure of the Saviour adorned with precious gems. In the fourth century a description of the building was prepared by St. Paulinus, of Nola, but, as Mr. Barnes says, "Unfortunately there is hardly anything to be gathered from this description which gives us any exact idea of the place." The writers appear to have devoted most of their attention to the neighbourhood of the tomb of St. Peter. But whether owing to the architecture or to the objects in gold and silver with which it was enriched, the basilica was considered to be most impressive, and especially to those who came on pilgrimages from England. Of the effect of the combined wonder and reverence on them Mr. Barnes says:—

> They built churches at home which were designed more or less exactly after the model of St. Peter's at Rome, though, of course, on a less magnificent scale, and got them enriched with indulgences and other privileges which could be obtained by those who came on pilgrimage to them. That was the origin of many of our own churches in England, and notably of the abbey of Peterborough—the great church which is now Peterborough Cathedral. In some cases the portions of such churches which were imitated from St. Peter's can still be traced, and in them we have another test by which to try the exactness and truth of our theories and reconstructions. . . . In a lesser degree the cathedrals of Exeter, of Gloucester and of Ely, with the abbeys of Westminster, Ripon, and many

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* *St. Peter in Rome and his Tomb on the Vatican Hill.* By the Rev. Arthur Stapylton Barnes, M.A. (London: Swan Sonnenschein & Co., Limited.)

others of lesser note up and down the country, all of which were dedicated to St. Peter, shared in these privileges. It is not unlikely that in Saxon times many of these churches had the arrangement of the high altar and the crypt, which was generally beneath it, copied from that of St. Peter's at Rome, but of that we cannot be sure, for no sufficient details have come down to us, and the churches have in every case been rebuilt and altered so often that hardly any trace of the original arrangements remain to us. We have, however, in the Saxon towers, of which a good number still exist, one remaining proof of the very wide extent to which Roman architecture was imitated in England before the Conquest. No one who has once had his attention drawn to the matter can doubt that these towers are direct imitations in a different material, and perhaps from hearsay information only, of the campanili which are so marked a feature of Roman churches now, and among which the great tower of old St. Peter's, built in the eighth century by Hadrian I., was the largest and most beautiful of all.

The oldest plan of St. Peter's is one by Tiberio Alfarano, which appeared in 1589. The basilica did not then exist, but he may have been able to trace the foundations of the walls and to receive information which would enable him to plot portions of the church of which there was no trace. It appears to have been a consistent plan—a nave with two aisles on each side and several chapels, with a court or atrium of large size in front. Although this plan suggests that the usual arrangement of a basilica was followed and that the building was practically a square, with the exception of two projections at the east and west sides, yet there are statements from which it might be concluded that by many people St. Peter's was believed to have been on a cruciform plan. If so it would form a clumsy tau cross. So far as is known, St. Paul's in Rome was the first church which possessed transepts, and in that way differed to a remarkable extent from St. Peter's. According to Mr. Barnes, "The original church, as it was built by Constantine and remained until the middle of the fifteenth century, differed from other basilicas in no way except that it had a great arch—a chancel arch, as it would be called in Gothic architecture—which divided its length into two parts, and afforded additional means of support for what otherwise would have been a very daring construction." In most of the old descriptions of the building there is reference to the columns which divided the nave from the aisles. They are introduced in the picture *The Presentation of Rome to Sylvester I. by Constantine*, which is supposed to have been designed by Raphael, and is in the Vatican. The capitals are all shown to be uniform, which is not always the case in basilicas, and was likely to be only a painter's license. Those which are above the tomb were the originals of the twisted columns introduced in one of the cartoons as forming a part of the Beautiful Gate. The length of the basilica cannot be ascertained. Mr. Barnes considers the nearest approximation to it would be found by measuring through the crypts, but he admits that the operation would be difficult. From other evidence he has come to the conclusion that the basilica measured in length 340 feet without the apse, and was 196 feet wide, exclusive of the external chapels. In the fourteenth century the descriptions of the church are more numerous. In the views and in the plan of Alfarano two round buildings appear as connected with the church, and they were supposed to be Pagan temples. Through the researches of Professor De Rossi they are now assumed to be "mausolea of some of the earliest Christian emperors, who desired to be laid as close as possible to the tomb of St. Peter." As in the Pantheon, altars were set up in them and they were used as if they were churches. One of the round buildings survived until 1777. Behind the apse corresponding with a Mediæval lady chapel was a building which was also supposed to be a pagan temple, and bore the name of Probus. In the fifteenth century it was described as a noble building with many marble columns, but utterly neglected and never visited. The humidity which still prevails at St. Peter's is suggested when we read that the architraves were covered with moss. The sarcophagus of Probus long served as a font.

The invasion of the Saracens during the pontificate of Pope Sergius II. in the middle of the ninth century wrought great havoc in the basilica of St. Peter. They carried away the gold and silver and gems, the silver plating of the doors and the gold plating of the altars. Baronius declared they did not meddle with the tombs because he was not able to see any trace of fire on the memorials. The contrary view was taken by other annalists. Mr. Barnes investigates the subject with very great care, and from what is known about the condition of St. Peter's tomb he has come to the conclusion that expedients were adopted to conceal the opening, and as there would be no apparent advantage in excavating earth, we may assume that the privacy of the dead was not interfered with. The subject is of great difficulty, and has been variously interpreted. As long as the world lasts we suppose there will be sceptics who will believe that the dust of the Apostle was scattered by the Saracens. But, on the other hand, we may assume that the authorities of the church would adopt means to preserve the sarcophagus of St. Peter, and it would be no difficult task to fill the subterranean chamber with stone, earth and rubbish. In any case, it is remarkable that the restoration which followed has been allowed to remain unchanged, for, according to Mr. Barnes, "In spite of the thousand years that have passed away, and the extraordinary transformation that has taken place in the church around, nothing more has been done than to repair what was then arranged, with the result that we have apparently before us the "confession" of St. Peter in exactly the same condition as when its restoration was completed by Leo IV. in the middle of the ninth century." What is said on the subject is enough to suggest the spirit in which Mr. Barnes writes. He does not rely on miraculous action as a factor to account for whatever may appear to be not in keeping with experience. If he is not always able to satisfy doubts, he does not add to their number or aggravate the irritation they bring by explanations which impose a burden on the understanding.

Up to the Reformation the basilica of St. Peter was the most important building in Europe, and for many people the existing temple still holds its pre-eminence. The history of the old church is known to only a few students. Mr. Barnes has made the information on the subject accessible. It is a marvellous story he has to relate, and he has performed the task reverentially and exhaustively. Architecture, however, has only a secondary place in the history, for what drew pilgrims to Rome was not the basilica which Constantine raised and other monarchs adorned, but the sepulchral chamber and the small watching place or chapel above it, both of which were beneath the church and which few were privileged to behold. The volume is therefore at least of equal importance to ecclesiologists, and to all who can find interest in the history of the Latin Church.

RUSKIN'S SURREY HOMES.

In this, the fairest of the home counties, Ruskin's early years were passed near London.

In 1824, when the late author was about five years old, his residence was at 28 Herne Hill. "Our house," said Ruskin, "was the northernmost of a group which stands accurately on the top of a dome or hill." In 1886 he revisited this spot, and walked from Herne Hill station to the Fox tavern, long since converted from a lowly inn to a pretentious hostelry.

His cousins, Mr. and Mrs. Severn, lived afterwards at No. 28 Herne Hill, and since his retirement at Brantwood, on Coniston Lake, one or the other has always been with him.

The early life of every great man is interesting, developing features which afterwards become part of a noble and unique character.

We hear of his many rambles in Surrey, along country lanes, where he collected leaves and flowers which served as a study for his pupils at a school of art which he founded in Great Ormond Street. His first lessons almost were at a private school in Grove Lane, Camberwell, and his amusement was riding along the Norwood roads and at times traversing Dulwich fields, then full of "buttercups in spring and blackberries in autumn," as he tells us in his "Præterita."

Mr. Morris, the Dulwich artist, has many memories of Ruskin's Surrey life; how that he would ask him to see his collection of fruit and flower paintings at Denmark Hill by the celebrated Hunt, or "Little Hunt," as Ruskin called him.

We may even go back to the days when Ruskin's maternal grandmother kept the Old King's Head at Croydon, a tavern which once stood in the rear of the town hall, taken down a few years ago, to be replaced by the present municipal buildings. The King's Arms and King's Head were favourite signs in that once picturesque town, and may have taken their names from the frequent visits of George IV. through Croydon on his way to Brighton, a route so often described in that bright and chatty volume, "The Brighton Road."

In Shirley Churchyard Ruskin's father and mother are interred, and we hear of John as a little boy staying with his aunt in this neighbourhood, and of his many walks on Duppas Hill, near Croydon, or over the purple heather of the Addington hills. In Ruskin's character we see the love of revisiting his childhood's haunts, and his care in placing an epitaph on his father's tombstone. A county whose associations are linked with Tennyson, Watts, George Eliot, and many others who have spent some part of their lives among its beauty spots, adds another chain to its annals in that artist and author of great fame, John Ruskin. Nowadays there is so little left to remind one of the early homes and haunts of such men that we can only recall them by past recollections. Would that they were more, or that historical buildings should not have suffered so greatly by removal.

In Croydon, the Archbishop's Palace (now much altered and lessened) and Whitgift's Hospital are almost the only remains from the picturesque and old-world "bits" which, if saved, would have been a subject for the pencil and a theme for the pen.

THE ROMAN FORUM.

THE following communication from Mr. Richard Norton appeared in the *Times*:—A little more than a year ago I had the honour of writing to you on the subject of the excavations which had then been recently begun in the Forum of Rome. As it is not improbable that this work, which has been going steadily on ever since, will soon be stopped, at least temporarily, it may be of interest if I give a slight account of what has been accomplished in the meantime.

One important result attained has been proof of the complete incompetence of the earlier excavators. Nowhere had these workers completed their undertakings. They did not dig deep enough, an omission for which, by all sound rules of archæological excavation, there is no excuse. Worse, even, pieces of monuments of which the original position was easily discoverable had, in many cases, been heedlessly cast aside as though they were uncut blocks from a quarry. This was true of the metope of the Basilica Æmilia, mentioned in my former letter, and equally so of several of the lower blocks of the Arch of Augustus which have now been placed where they originally stood. Numerous pieces of the base moulding and cornice and balustrade of the Rostra have also been gathered together and put beside this monument.

Behind the Rostra, it will be remembered, there is a curved wall of porta santa marble which has been for a long time an archæological riddle. Not unfrequently it has been called the Græcostasis. This name served but as a working hypothesis against which lay all the balance of probability. A much more reasonable explanation has been suggested by Mr. O'Connor, one of the students of the American Archæological School.

When the earth within the curved wall was taken away remains of travertine steps were brought to light. Now there was in the Forum, as is clear from various passages in Cicero, a Tribunal Aurelii shaped like a theatre—as to its exact position and character authorities disagree. From what Cicero says it can scarcely be questioned that this tribunal was close to the Temple of Saturn and to the Comitium, and that it was built about 75 B.C. As the construction under consideration does not belie this date and suits all the other requirements, it seems as though Mr. O'Connor's suggestion may have solved the riddle.

Between the tribunal and the modern road two interesting discoveries have been made:—(1) Early tufa drains constructed with a high continuous ledge along one side of the interior; the object of this ledge is not apparent. (2) The foundations of the Temple of Concord. On some of the foundation-stones are cut large archaic letters. In this immediate vicinity another monument, the Temple of Saturn, has been cleared, but nothing of especial import was discovered.

Results more interesting were attained towards the northern limits of the Forum; for here, just in front of the Arch of Septimius Severus, was found the much-discussed Black Stone, while, approximately opposite the Basilica Julia, the remains of the Basilica Æmilia were brought to light chiefly through the munificence of Mr. Lionel Phillips. Both of these events have previously been mentioned in your columns, and the excitement occasioned by these discoveries has now died down to an extent which renders it possible to consider them without controversial animus. The Black Stone is, in truth, several black stones, or rather thick slabs, of black marble, making together a thick pavement some 12 feet square. The marble is of very fine grain, intensely black in colour, lit by lightning-like streaks of white. It came, perhaps, from Laconia. Whether this Black Stone marks, as, according to certain ancient authors a certain black stone (niger lapis) in the Comitium did mark, the tomb of Romulus is for many obvious reasons open to doubt; but there can be no reasonable question that the black stone which has been found, and which is in the Comitium, marks the spot where, according to popular fancy, Romulus or Faustulus his guardian (for the story was told in different ways) was buried. When first found it was by some asserted not to be black. This opinion was due to colour-blindness. Sceptics further asked to be shown the bases on which, according to the ancient account, sculptured lions had stood on either side of the Black Stone. Objections of this kind are tantamount to a proposition that excavators must find everything mentioned by the ancients before any of their statements are worthy of credence. Shortly afterwards, however, these bases were found some 4 feet below the Black Stone, thus showing that the present Black Stone is to some degree a restoration and not the original form of the monument. Still unsatisfied, the doubters argued that not one but many black stones had been found, thus refusing to the Romans the right to refer in the singular to an object composed of several parts. But now the discussion is abating, and competent authorities seem rapidly becoming willing to acknowledge the Black Stone.

The results of the excavation below the Black Stone aroused even more discussion than the stone itself; for there, in addition to the bases of the lions above mentioned, were found a truncated cone of tufa set on a neatly-squared base, and a four-sided shaft, or cippus, of tufa rising from a base of its own. The meaning of the truncated cone is a riddle. On each of the four sides of the cippus and along one edge, which had been cut down to afford extra space for letters, were inscribed words the meaning of which is not yet certain. Whoever attempts to decipher these words is met by a twofold difficulty; in the first place they belong to the earliest, as yet little understood, stage of the Latin language, and in the second, the upper portion (perhaps half) of the cippus was at some unknown time destroyed. The general drift of what is left shows, as has been proved by Comparetti, that the inscription dealt with the making of sacrifices. The sacred character of the spot where it was placed is clearly shown by the layer of ashes, bones and votive objects found all round the cippus. The most interesting of the votive objects were a small number of little bronze figurines strongly resembling the Apollo of Tenea. These are about 3 inches high, and, to judge from their style, were certainly not made in Rome or the neighbourhood. Roman may be, on the other hand, two or three bone figures and a rudely-modelled, shock-headed nude male figure of bronze holding a short curved stick in his hands. None of these figurines are more than 4 inches high.

Foreign students have made but timid ventures towards deciphering the inscription, and it may be well to utter a warning against the numerous Italian interpretations. The above-mentioned article by Comparetti is well worth reading, but the rest, including those by the gentleman whom his opponents wickedly dub the "glotologist," Ceci, may be completely disregarded. This energetic savant has fumed, insulted and raved by turns against the entire learned world, which refuses to attach any importance to his lucubrations.

Though the Comitium has been cleared as far back as the front wall of Sant'Adriano, nothing of great importance has come to light, except the larger part of a building inscription of the Republican epoch. This inscription is of considerable value to epigraphists, owing to the excellent preservation of its remaining parts and to the forms of letters employed.

The chief interest of archæologists was, however, concentrated upon the exploration of the site bought by Mr. Phillips and given by him to the Italian Government. On, or rather under, this site the Basilica Æmilia was known to have stood, and notwithstanding the ravages of the Renaissance architects it was hoped that considerable remains of this very important building would emerge from their long burial. Even if the results of the excavation have not fully corresponded to the hopes previously entertained, the value of Mr. Phillips's munificence must not be underrated. It was displayed at a time when work in the Forum seemed likely to cease for lack of funds, but the stimulus afforded by Mr. Phillips's gift enabled Professor Baccelli, Minister of Public Instruction, to obtain supplementary grants and to carry out further important undertakings.

The results attained on the site of the Basilica should not be disprized. The original plan of one side of the building (a long colonnade with rooms behind) can be made out, but the superstructure has, like most of the buildings in the Forum, been destroyed by vandalism. The plan is not quite what was expected; something more like the Basilica Julia, a rectangular space with colonnades on all sides, was looked for. Further exploration more to the north behind the wall which forms the back of the colonnade will probably reveal the expected central space with another similar colonnade. The plan of the ends has still to be made out. Two points are made clear by the great length of the building—(1) that the Argiletum, the street that ran from the Forum past the Curia to the north, must have been extremely narrow; (2) that the well-known drawings by San Gallo and other Renaissance architects of Roman-Doric remains which have so often, though against many probabilities, been asserted to be designs of parts of the Basilica can in no easy way be brought into relation with it.

The colonnade was built of white marble shafts set in travertine foundations; architrave and frieze were also of marble, but the wall at the back and the spur walls that divided the space into chambers were of tufa. In some of these chambers are considerable remains of charming pavements in opus sectile. From a metope decorated with a patera it seems that the metope with a boucranion found last year is a sample not of the whole but of only a part of the decoration. Other decorative pieces, attached originally probably to the walls, as in the case of similar bits in the Pantheon, were found in an ancient sewer which, running under the Sacred Way from the vicinity of the Basilica of Constantine, joins the Cloaca Maxima not far from the Basilica Æmilia. They are panels of white marble, some 4½ feet by 2½ feet, on which are carved, within a leaf moulding, acanthus scrolls, from the centres of each of which spring a lion, panther, or other animal. They are magnificent examples of decorative work of the early empire.

The Basilica was restored, it appears, probably in the time of Theodoric. The original site of the building was not adheres to in all its parts, small shafts of red granite, raised on pedestals, taking the place of the earlier columns of marble. These granite columns were more numerous as well as smaller than those of marble.

Among the odds and ends found were two interesting inscriptions, one of these (much broken, though the pieces are well preserved) being the notification of a dedication by the Senate to Lucius Cæsar, written with all the splendid elegance of form of the inscriptional writing of the Augustan age. The other is a fragment of the Fasti, brought from the Regia and used as a threshold. Though much worn there are still to be traced the words recording the appointment of a dictator, "clavi fingendi causa," an interesting ceremony spoken of by Livy.

The Regia, whence the latter inscription came, has at last been laid bare. The ground plan was well known from earlier work by Nichols and others. Now, besides a well and an underground chamber, bee-hive shape, have been disclosed the foundations of what may well have been the shrine in which were preserved the sacred spears of Mars. It has been suggested that the beehive chamber was the sacrarium of Ops Consiva, but this sacrarium was entered on certain occasions by the Pontifex Maximus and the Vestals, and we can scarcely think of their descending into this dark, small hole. In this chamber were found some seventy ivory stili and a small wooden writing tablet. The well above mentioned was of no great interest, though it contained a few dice and astragaloi, and near it was found a bit of moulding inscribed with the word Regia. The number of wells of all epochs that have been found is quite remarkable and all the earlier ones are characterised by having at the bottom a layer of gravel. As a layer of this same gravel was found under the Black Stone, and as, wherever it has been found, votive objects have come to light, it seems as though it had probably been used in some religious ceremony.

The Domus Publica, which belongs to the same group of buildings as the Regia, has been studied, but nothing new found except the corner of the impluvium, which gives, of course, a key to the plan.

The Atrium Vestae, another building of the same group, has been more carefully worked over than ever before. The careless, or rather stupid, character of the earlier excavations was shown when, on the removal of the dirt from certain chambers at the south-west corner of the atrium, two rich pavements of opus sectile were uncovered. Following indications on the wall of one of these rooms of an original arched opening, blocked up at some later time, Signor Boni was rewarded by finding concealed in a small hidden passage-way a hoard of about 400 aurei of the late Roman Empire. Though well preserved, they were unfortunately mostly of common types of the reigns of Anthemius, Valentinian III., Livius Severus, Marcianus and Leo. The only rare ones are a few of the reign of Euphemia. Another and still larger hoard of coins, but unfortunately this time of copper, badly oxidised, was found a few days ago in the Basilica Æmilia.

As a sort of bond connecting these scattered explorations has been the search for the Sacred Way. Signor Boni, following the line of the sewer in front of the Basilica Æmilia, dug in front of the Basilica of Constantine, and there several feet below the late road that Lanciani had mistaken for the Sacred Way found extensive remains of the fine polygonal pavings of the real Sacra Via. Higher up towards the church of S. Francesca Romana he came across the foundations of the Porticus Margaritaria, and then digging below the nave of the church itself he found the same pavings, thus proving that originally the Sacra Via ran straight from the Forum towards the site where the Colosseum was subsequently erected. Later, perhaps when Hadrian built the Temple of Venus and Rome, the Way was turned towards the Arch of Titus.

These, then, are the most important results of the year's work. Others less noteworthy, such as the laying bare the marble floor of the Forum Pacis and the finding in other parts of Rome of a bit of the Ara Pacis and 500 or more fragments of the Forma Urbis, have been described in the official publications. It is a year that will long be remembered. It is a year when what Americans term the "horse-sense" of an Englishman won for the world of scholars a victory over false sentiment, and when that same world has applauded the well-founded strictures of Professor Helbig upon the management of the Papa Giulio Museum. If the fates permit Minister Baccelli to remain in office there is every reason to hope that the good work of the past twelvemonth will be continued, if not in the Forum itself, at least in other parts of Rome.

LEGAL TOPICS.[*]

(*Concluded from last week.*)

NOW we come to the Public Health (Buildings in Streets) Act, 1888, which, I may remind you, deals with new buildings as well as old, and only applies to urban districts or to such rural districts as have got leave from the Local Government Board to enforce it. In this last respect it resembles the prescribing method. Under the above Act you may not without the written consent of the urban authorities put up a new building, or put up a new addition in front of an old building, or put up a new addition on the top of an old building in such a position that the new building or the new addition will project in front of the main front wall of that building next to you which stands furthest back and is in the same street. I shall speak of your neighbour's building, the "governing building."

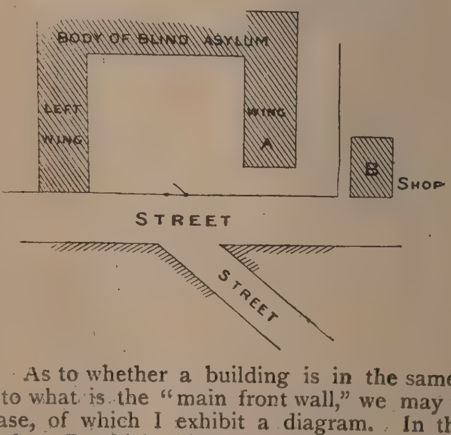
What additions will be forbidden? Any addition that comes too far forward if large enough. A small wall and a small conservatory would be legal, a large wall or a large conservatory would be illegal.

What kind of building must your neighbour possess for it to be a governing building? It must, I think, be something in the nature of a house, as the Act speaks of it as having a "main front wall."

As to what is a street, we have already discussed this matter, and we have also observed that a corner house can be in two streets.

Suppose the alleged governing house stands for instance 64 feet back from the street, it cannot prevent you from adding to your building, as it can hardly be said to be in the street for the purposes of the Act. Then, again, suppose that your house is in an old street, and someone makes a new and wider street in continuation of this old street. Can you put up an addition which would be in front of the houses in the wide new street? Yes, certainly, the two streets are distinct. Again, it has been held that a wide street of palaces and a narrow back street, though one formed a continuation of the other, are not the same street. As to whether a building is in the same street, and also as to what is the "main front wall," we may refer to a Bristol case, of which I exhibit a diagram. In this case there was a shop, B, which the owner brought forward to near

IV "MAIN FRONT WALL" BRISTOL CASE



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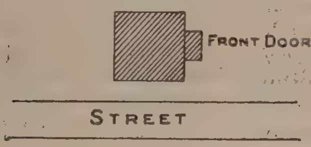
[*] A paper read at a sessional meeting of the Northern Architectural Association on January 17, by Mr. Algernon Barker, B.A., barrister at law, of Newcastle.

the roadway. Next to this shop on the other side of the lane and of a small area was the wing A of the Blind Asylum. This wing stood back a considerable distance from the road. Then came a large courtyard which ran a very long way back to the main body of the asylum. Beyond this courtyard and right up to the road came the other or left wing of the asylum. It was held that the front of wing "A" was not the main front wall of the Blind Asylum, so as to keep the owner of the shop from building forward. The Court said that the governing "building must be looked at as a whole; its character, position and distance from the house or building which is being erected must be considered. A particular wing must not be selected. Nor are two buildings necessarily in the same street because one faces the same street or a continuation of the same street as the other."

In another case as to main front wall it was held that a house which turned its side to the street (as in diagram five)

V "Main Front Wall."



could not be a governing house. The side wall was not a main front wall.

What is to be done, then, if you want to build your house forward or add to it some addition which would project?

The consent in writing of the surveyor ought to be obtained, and it would be well to persuade him to enter it on the minutes of the Council, but no consent given by word of mouth or presumed from conduct of the surveyor or the authority can avail you. In the absence of this consent there may be another method which I indicate below.

With the penalty I will not deal now, as I deal with the recovery of penalties in a subsequent part of my paper. Suffice it to notice that there is a continuing penalty of 40*s.* a day or less, which does not begin till the day after notice that you have infringed the Act, and which must stop on the anniversary of the original offence when you first made any projection worth considering. Also note that a building put up in breach of the Public Health (Buildings in Streets) Act cannot be pulled down without your consent except so far only as it projects into the footpath or roadway.

A consideration of these two facts leads me to suggest that it may be worth your while to set your building forward where, owing to circumstances, you are morally justified in not complying with the Act in this respect. Your building cannot be pulled down, and the owner cannot be made to pay more than 750*l.* and costs, and the extra land you gain may be worth more than this.

Another variety of the precept "Thou shalt not build" confronts the architect in the case of open spaces, highways and streets. It rarely occurs to the man who perambulates the park or the public street or highway to ask "to whom does this belong?"

A private man or body of men may have the freehold, and always in the case of streets and highways does possess it. Their rights must be respected, for they own the land up to the sky, and subject to any rights of subsoil being in some other private person or company, they own the soil down to the middle of the earth. The smallest freeholder may justly swell with pride as he contemplates the vastness of his estate. Thus even the local authority are not complete lords of their own streets, they cannot authorise the laying of trade pipes or make tunnels, for instance, for subways and the like without the freeholders' leave. Their sole right is to lay gas, water-mains, sewers, or electric wires, and to protect these.

Or a local authority may in the case of open spaces be either the freeholder or the leaseholder, and have rights as such.

The rights of these freeholders and leaseholders, whether private men or local authorities, must be borne in mind when you wish to put out a projection overhanging, or to excavate a tunnel or cellar undermining an open space, highway, or street, and I will presume that you have respected these rights.

We pass on to the rights of easement which are vested in local authorities—that is, to those rights of the public to use and enjoy the open spaces and to promenade along the pavement or to drive carriages or haycarts along the streets or highways without let or hindrance, and to have their gas and water-mains or their electric wires and their sewers undisturbed by underground tunnels and vaults.

If you wish to overhang an open space, highway or street, you need not get the consent of the local authority in their capacity of guardians of the right of way, but you must not obstruct or endanger the public in their use of such open spaces or ways. Thus in the case of a street or highway your projection or bridge if over the pavement must be above man's height, and if over the street must be above the height of such vehicles as are likely to "use the street as a street." Thus it must be possible to take a haycart along the road, and perhaps a fire-escape, but, as I have heard of in America, if a peripatetic chapel were to come that way it could not complain of your bridge. Nor must you put a cornice which might drip over passers-by on a rainy day, as it has been held by weighty judicial authority that rain does fall.

If you wish to tunnel under an open space you must not disturb the soil so as to lessen the amenities of the park, and in the case of a street you must leave undisturbed such portion of the subsoil as the authority may need for their gas-pipes, sewers, water-mains, or electric wires, and not only must these be respected, but the whole stratum in which they lie must be treated as sacred. As regards tunnels, vaults, or cellars under the carriageway of any street of the urban authority (and this would include a bridge other than a county bridge, but not a main turnpike road), you can only make such excavations with a written consent of the local authority; such consent is only valid in writing, it cannot be presumed from conduct. For breaking this rule there is a lump penalty and a daily penalty recoverable before justices of the peace. The authority may also remove the building and recover the costs of doing so before the same tribunal. There may be other bodies having statutory and other rights in the surface of the street and a portion of the subsoil, and these you must respect. In the case of disused burial-grounds you must not disturb the dead unless you get special powers to do so.

If you wish to build upon the public park or to overhang it so as to obstruct passage you must get the consent of the local authority, but even if you are employed by them they have a sacred trust for the public, and only such buildings as conduce to recreation can be placed thereon. You cannot even by their orders put up a town-hall or a school, but you can put up a conservatory, a public library or a museum, and as it seems to me such buildings as a boat-house, shelters, refreshment and other kiosks, baths, gymnasiums and other places for indoor exercise, monuments and rooms for entertainments or a gate-keeper's lodge. To choke up the whole park with these would, however, be no doubt illegal. No building of any kind, not even a band-stand, can be placed in a disused burial-ground. Statues and monuments may be put in the streets only if the Public Health Act Amendment Act is adopted. (No freeholders' or leaseholders' consent can enlarge these powers.) As to who are the authority to enforce these rights, and as to how these rights are to be protected, is a question I must leave for another occasion.

Before leaving these sins of commission it may be well to consider the case of brick-burning. This is a nuisance at common law if it interferes with the amenities of the neighbourhood, but it is not subject to the technicalities of the Public Health Act regarding nuisances or offensive trades. It is punishable by the ordinary methods if it does cause a nuisance.

Now for a few sins of omission against the public. You have a quarry by the roadside. Have you fenced it? If not, beware of the complicated technicalities of sections 91 to 111 of the Public Health Act, 1875.

You are erecting or repairing a building or the front thereof near the public street, and have not remembered that beautiful object the repairer's hoarding, usually resplendent with advertisements of cigarettes, and that inconvenient adjunct, the hand-rail, and the red lamp to warn the belated as required by the Towns Improvements Clauses Act. If so, beware of the urban district or the town council, and remove your hoarding in good time where the Public Health Act Amendment Act has been adopted. In any case, these hoardings must not impede traffic.

Or the builder may have left a heap or an excavation an unreasonable length of time in the street, and may have omitted to light such heap or hole at night. This is an offence under the Towns Improvements Clauses Act. Besides all these the owner may be liable for commissions or omissions under a local Act, and if there is a local Act it may be well to see that proper water-spouts are put on buildings to prevent their dripping into the streets, so that while the indignant passer-by is looking up to discover where your waterfall comes from he does not fall into your unfenced cellar. Lastly, the doors of your building must be made to open inwards, unless it is a public building with special leave obtained. Any by-laws also must be carefully attended to.

The Liverpool Architectural Society will hold its third members' meeting of the fifty-second session at the Law Library, 41 Castle Street, on Monday next, the 19th inst., at 6 P.M., when a paper will be read by Mr. A. Stratton, A.R.I.B.A., on "Santiago de Compostella," with limelight illustrations.

NOTES AND COMMENTS.

SEVERAL efforts are about to be made by the Paris Municipality in order that strangers may not be shocked when they visit out-of-the-way parts of the city during the present year. One case is to be found at Montmartre. That quarter of Paris largely consists of tumble-down houses, which, although pleasing in the eyes of Bohemians, are likely to surprise staid people who come from towns where the authorities exercise efficient control. As the visitor ascends the hill the condition of the houses becomes less satisfactory, and when the summit, where stands the great church of the Sacré-Cœur, is reached the surroundings are extraordinary. The houses appear more tottering and neglected through the vicinity of the severe building which M. ABADIE designed, where the masonry is as bright as if the stone had just left the quarry. It is not possible to clear away the wretched houses, although they seem almost as unstable as gipsies' tents, for we may be sure a very high value is now set on the meanest among them. But many things are to be seen in and about the roads which could be dispensed with. The late M. ALPHAND attempted to grapple with the evil, and would have succeeded if he had lived, but his death put a stop to the projected improvements. M. BOUVARD, who now has charge of all the public ways in Paris, has been able to persuade the Municipality to grant him about 1,200*l.* to be expended in the neighbourhood of the basilica. The sum is very small for so vast a work, but by careful management it would accomplish a change for the better in the approaches to the great memorial building.

NOBODY can expect to study attentively pictures which hang in law-courts. Having a belief in the influence of art, the French at one time introduced paintings into them. But they were compelled to substitute a sculptured crucifix as more impressive. There are, however, some good examples of painting to be found in the courts. One which was hung in the Court of Appeal in the Palais de Justice, Paris, has an interesting history. It was commissioned between 1452 and 1455, and was paid for by fines which were inflicted by the judges. This picture has been attributed to VAN EYCK and to ALBERT DÜRER, for it is unquestionably the work of a master. It is a triptych, and is over 9 feet high. In the centre is a representation of the Crucifixion, in which the Eternal Father and the Holy Ghost are introduced after a manner that was popular with the Flemings. On the right side is a group of the holy women, with St. JOHN THE BAPTIST and St. LOUIS. On the left are St. JOHN THE EVANGELIST, St. DENIS and CHARLEMAGNE, who was long accepted as a French monarch. But what gives interest to the work is that in the background of the side panels Paris is substituted for Jerusalem. The Palais de Justice, with its donjon and other buildings, forms the most prominent object in one panel, while in the other the Louvre and the Hôtel de Ville are introduced. This fine work somehow found its way to the Louvre, where it remained till 1811, but wall space was then valuable, for the spoils of the principal European galleries found their way there. The picture was therefore returned to the Palais de Justice, which is its most fitting abode. But as it cannot be well seen, and the view of Paris is valuable evidence, some lovers of antiquity have appealed to the Government, and in consequence the picture has been once more transferred to the Louvre.

THE erection of workmen's dwellings is a problem which is evidently beyond the powers of the French mind. Attempts have been made to solve it, but without satisfaction to those who pay for the buildings or those who occupy them. The Social Science sub-committee of the Royal Commission of the Paris Exhibition are therefore rendering a service to the municipalities and the philanthropists of France by showing in the English section drawings and models of various types of workmen's dwellings which have been erected in this country. The Birmingham Corporation have had a model prepared of the dual houses which are now in progress in Milk Street. Each house is self-contained, and comprises a front room, a bedroom, a scullery, a small coal-house and a water closet; while each alternate dwelling has an additional bedroom, the occupant of the larger dwelling having to pay 4*s.* 6*d.* rent as compared with 3*s.* for the smaller house. The houses are in terraces, one behind another at a distance of about 30 feet. Including road-making and sewerage the buildings will cost about 10,000*l.*

PROFESSOR SIXT, who is conservator of antiquities to the Würtemberg Government, has been fortunate in finding a Roman milestone. It is about 3 feet 6 inches high, and it bears an inscription announcing it was set up in the thirteenth year of the reign of HADRIAN, or about 129 A.D. It records the distance from Sumoloonna, which is now believed to be the town of Rothenburg, as 29,000 Roman paces. It is the first milestone which has been found in Würtemberg, and it bears the oldest Latin inscription in the country. Professor SIXT has also found an inscription for a building, stating that the authorities of Grinario had placed it in its position in order to do honour to the imperial family. The two stones have been deposited in the Stuttgart Museum, and both are likely to give rise to controversy among scholars. If Grinario can be taken to be near the spot where the stone was found it will follow that other sites assigned to that town must be erroneous, and when measurements are found to be faulty in one place, it is not unlikely that other measurements which are based on the same principles may also be found to be wrong.

ILLUSTRATIONS.

WESTMINSTER ABBEY: INTERIOR, LOOKING EAST, SHOWING MODERN SCREEN. DETAIL, NORTH PORCH. SOUTH AMBULATORY, LOOKING TOWARDS HENRY VII.'S CHAPEL.

ST. GABRIEL'S COLLEGE, CAMBERWELL, S.E., FROM SOUTH.

THIS is the first new Church Training College for Elementary Women Teachers that has been undertaken for at least five-and-twenty years, during which period the number of teachers required and employed has increased so enormously that many have to enter the profession without any college training, so inadequate is the accommodation in the existing colleges for those who have obtained a good place in the Scholarship List. St. Gabriel's has been authorised by the Lord President of the Council, and will be under Government inspection.

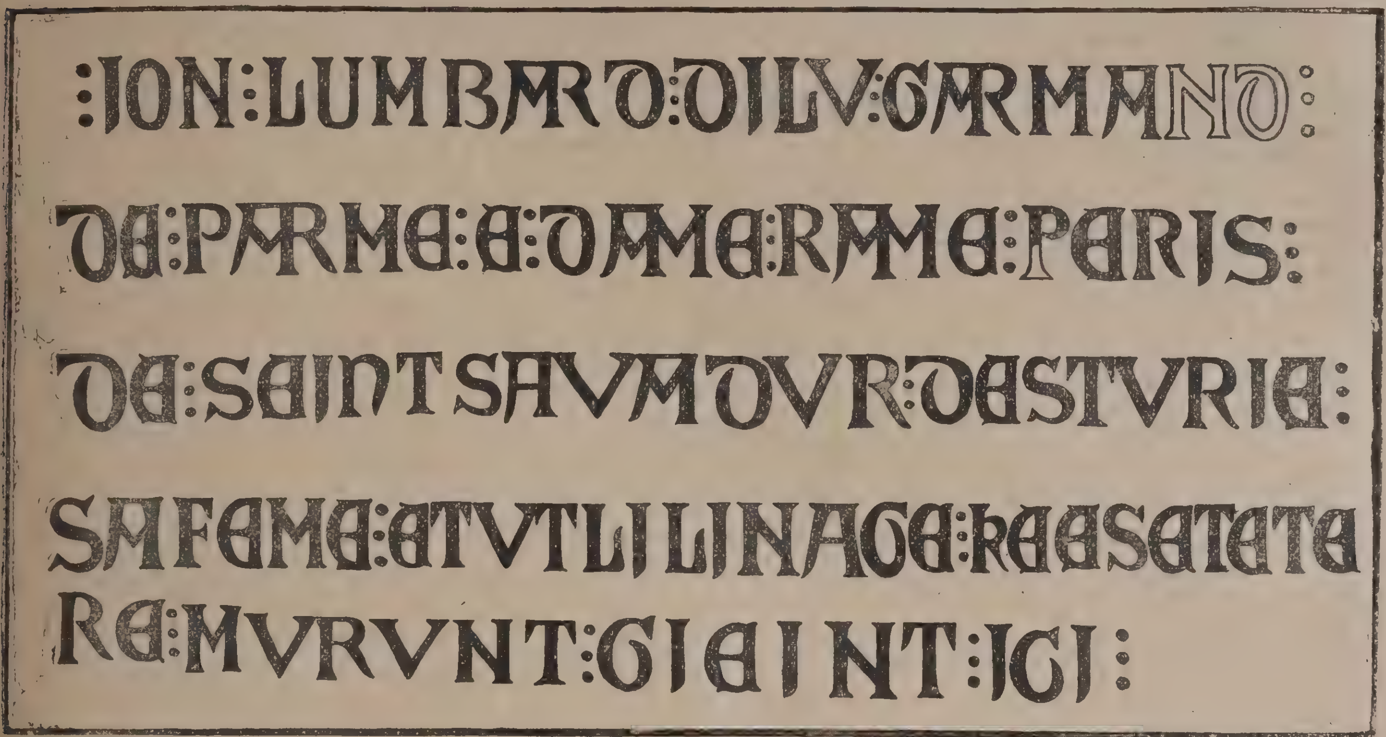
The accommodation arranged for is eighty Church of England residential students, and a similar number of non-residential of any persuasion, the latter of whom will live at their own homes or houses approved by the committee, and need not attend services. No pains or money are being spared to make the College, both as to buildings and staff, as perfect as possible, so there will soon be a most valuable addition in South London to the number of training colleges which are already doing such excellent work in various parts of the country. The patron of the College is His Grace the Archbishop of CANTERBURY, and the president the Lord Bishop of ROCHESTER.

The architectural character of the building has a somewhat severe if subtle note, being a blend of Gothic and Classic, some Classic forms being utilised and vivified with Gothic mouldings. Only the part hatched in in solid line on the block plan is included in the present contract, which has been let to Messrs. J. GARRETT & SON, of Balham Hill, S.W., at 30,565*l.* It is hoped that this will be completed by August 1900, as the great demand has necessitated the opening of temporary premises. The materials throughout are of the best, LAWRENCE'S red facings being used in bands of two colours with Portland-stone dressings, and the roofs are covered with Tilberthwaite green slates in diminishing courses. The bays will be in rough-cast, which so far has been almost exclusively and inexplicably used for domestic work. It is thus hoped that a simple, effective, bright front will add a permanent pleasure to those using the London County Council pleasure gardens of 40 acres—known as Myatt's Fields—facing the site of St. Gabriel's in the Cormont Road. The chapel, gymnasium, lecture theatre, music practice-rooms and swimming-bath remain to be built later. It may be noted that the buildings are being erected by voluntary subscription. The architect is Mr. PHILIP A. ROBSON, A.R.I.B.A., Palace Chambers, 9 Bridge Street, Westminster, S.W.

THE LINEN AND WOOLLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX: A VIEW IN ONE OF THE QUADRANGLES.

SHILLINGFORD HILL, BERKSHIRE: THE RIVER FRONT.

MEMORIAL SLAB, CHRIST CHURCH, DUBLIN.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LAST week we mentioned the interesting discovery of a slab in Christ Church Cathedral, Dublin, by Mr. Thomas Drew, R.H.A. According to Mr. Drew's interpretation, it relates to a Spanish architect, who was the son of an Italian architect from Parma. We have given his translation, which assumes that "Garmand" was a misspelling of "Raimond." The subject is most interesting, for it would appear to connect the Norman cathedral of the twelfth century with the Comacini builders whose works are to be found in many parts of Europe.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, W., Mr. G. H. Fellowes Prynne, president, in the chair.

The following were elected members:—Messrs. C. Brett, D. A. Forster, W. T. Loveday, H. Redfern and J. G. Walker.

The Chairman referred to the possibility that the Architectural Union's prize might lapse owing to the few competitors. It was proposed that as an alternative which might attract a larger number of competitors the subject should be a set of four traceried windows illustrating the development of tracery, half interior, including wall arching, and half exterior of each window, drawn to 1 inch scale, showing jointing. Full-size details to be given in each case, and the original measured sketches to be submitted.

Mr. Thos. Blashill read the following paper, which was illustrated by numerous plans and sections, entitled—

Working Class Dwellings in Blocks.

The invitation to read this paper recalled to my mind an occasion long ago when the Association devoted an evening to the same question. On November 13, 1863, Mr. H. A. Darbyshire, who was then and afterwards largely concerned in this kind of work, read a paper "On the Construction of Dwellings for the Poor," and I, being then the immediate past president, took part in the discussion. Mr. Darbyshire, who gave us much useful information, began by saying that the subject was full of interest, and in skilful hands might be treated with novelty, but, as it had been so much discussed, he had little hope of giving additional information or enlightenment in the quarter of an hour which he proposed to occupy with his paper. One reads this with a melancholy interest after an interval of six-and-thirty years, during which, in spite of the work done by the author of that paper, and in spite of all that has been done by societies, by private individuals and by the public authorities, the housing question is even more than formerly a matter of serious concern.

There are many well-meaning people who shudder at the mention of a block or barrack building, desiring to see our working people housed in two-storey cottages behind gardens, leafy, floral and rustic fenced. In theory I agree with them, but the practical man must recognise that when the middle class has taken so kindly to "mansions" or "flats," it would be waste of time to argue against the housing of a working-class family in a "dwelling" situate in a block.

The great difficulty which faces the working man who must live near the centre of a town is the increasing scarcity of land that is suitable for him, but not capable of being used in more remunerative ways. To this must be added the increasing cost of building, and they inevitably lead to an increased outlay on rent. All we can do as architects is to exercise the most rigid economy in planning, in fittings and in finishings, with a good deal of reserve in the design of elevations. Besides this, ordinary materials and articles must be used in ordinary ways. An opportunity of designing a working man's dwelling is not the occasion for experiments which might be tried, in his absence, in the house of a colonial millionaire. This has always been the besetting sin of the designer of "model" dwellings. In some published designs, probably the best at their date, the houses are to be constructed with special bricks that would have to be laid by specially trained bricklayers; there are special drain-pipes and special window casements, with floors of a costly and uncommon fireproof construction, finished, even in the bedrooms, with a smooth vermin-proof surface of Portland cement. Looking candidly at these designs, they do not seem suitable for working people of any known kind. The population, like the buildings, would have to be special and "purpose made." We must consider what these people are accustomed to, what they want and what they can afford.

I suppose the bulk of the families for which new dwellings are required are now lodging with other persons of about their own class, or take rooms in houses that are let out in tenements. All that is private to them is the bare rooms. The scullery or washhouse, the closet and dust-bin, are used in common and with much less inconvenience than one might expect. The people are satisfied with such arrangements, and the families are helpful to each other. Directly you provide a complete dwelling that cuts off family from family, difficulties arise before unknown. Everything must be private and special to each family. If you imitate the old-fashioned arrangements by providing adjuncts to be used in common, extra supervision is necessary, and this is a serious item of expense.

Then points of "hygiene" not raised by the working man, not appreciated by him, to some of which he is bitterly opposed, and for none of which he will willingly pay, come into prominence. Ventilation is his horror when it takes the form of staircases exposed to the air, thoroughly ventilated lobbies, or anything that causes movement of air in or about the dwelling. There are points on which you cannot argue with a medical authority; he is doubtless right, but if you design your workmen's dwelling in every respect on his lines, it will probably not be occupied by a working man. There must be some point short of absolute perfection with which a reasonable man may be satisfied, and beyond which we need not insist upon forcing our ideas, however defensible they may be, upon people whose risks of starvation and of being turned into the street admit of no dispute.

In the first place, I should not be so fastidious in the matter of site, subsoil and surroundings as a Government inspector might be in the case of a hospital or a gaol; your occupiers will not be patients or prisoners. Make the aspect of the principal rooms as good as you can, and strictly obey the Building Acts and public health regulations, trusting to the general outdoor habits of the people and to their common sense for the rest.

Let us assume that your block can only be lighted by windows at front and rear. It may be so designed that the plan can be repeated down the whole length of a street. It is generally better that entrance to the staircase should be at the rear. This gives the tenants direct access to the playground, and keeps off the loafers and criminals who, in certain localities, infest staircases accessible to the street. If there is a choice it is generally better to put the living rooms overlooking the street: but upon this point and others of the like kind the important thing to the working man is to get a dwelling, let the aspect and the prospect be what they may.

Get into early communication with the district surveyor and the local public officers and fully explain your proposals; they will save you much after trouble and may give you sympathetic help. Do not be tempted to threaten that if they will not pass a certain arrangement on which you have set your heart you will find lawful means of doing worse.

A block dwelling will usually consist of four square storeys with a Mansard storey in the roof. You will want 40 feet clear open space in front and, subject to the Building Act, as much as you can get in the rear. A sixth storey would probably let well, but will require thicker walls and more open space. A lower building will hardly pay for the cost of foundations and roof.

The ground-floor level should be a foot at least above the back of the footway pavement; sometimes a half-basement is made, but the front area and the whole of the open space at rear should then be sunk below the level of the floor. Each storey will be 8 feet 6 inches high in the clear. The staircase should be 6 feet 6 inches to 7 feet wide for the two flights.

The floors of rooms should be made at least "fire-resisting. Pugging between the wood joists would be sufficient, but all the floors in the dwellings put up by the London County Council are made of coke-breeze and cement carried by steel joists. They are thinner than wood floors, saving a course of brickwork in all walls, and we found them somewhat cheaper, but this must depend on the price of steel. Care is required in mixing the coke-breeze concrete and in applying it so as to be firmly held by the flanges of the joists, which should be rather wide. I advocate here fire-resisting floors for convenience of construction as well as cheapness; but fires in these block dwellings hardly ever extend from one room to another, whatever kind of floor is used. Extension of fire from one tenement to another is almost unknown. The concrete under the ground floor has a covering layer of coke-breeze and cement concrete, and all floors have thin floor-boards nailed down close on the coke-breeze after this is quite dry.

Some useful hints may be gained from the particulars issued by the London County Council a few months ago for designs for blocks on their Millbank estate, but these must be used with discretion. The Council, having expended about 50*l*. per head of all the persons removed from insanitary areas, stipulates that the new buildings shall be so designed as to let, without further loss to the Council, at the rents that rule in the neighbourhood. They have to pass very strict medical criticism. One result is that the tenements are made very complete in their arrangements and the rents are beyond the means of the persons turned out. I am afraid that any really good complete sanitary dwellings will get into the hands of those who are comparatively well off, and not till this class has been satisfied will the working man of small earnings have his turn.

In the competition the Council demanded through ventilation from front to rear of each tenement, no back-to-back dwellings being allowed. The staircases were to have horizontal ventilation through windows opening direct to the open air. The average area of living rooms must be 160 feet superficial, that of bedrooms 110 feet. If two bedrooms were provided one must have an area of 120 feet. No living room was to be less than 155 feet and no bedroom less than 100 feet This is very good, but the usual size demanded for a living room has been 144 feet and for a bedroom 96 feet, which are the dimensions given to us by Mr. Darbyshire. In many modern cottage dwellings such rooms are only 120 feet and 60 or 70 feet, and I am not aware of any serious mischief that has arisen from these small dimensions where other things are satisfactory. No bedroom must be connected with any other bedroom, and in general these are entered from the living room.

A dwelling should consist of a living room with one or two bedrooms—sometimes a third. The inmates will be reckoned at two persons per room, and no doubt the living room will be used by night as well as by day.

Dust-shoots by the County Council conditions are not to be provided, but each tenant will have a dust-pail, and there will be a dustbin in the common yard into which pails may be emptied at any time. I determined from the first to have no dust-shoots in the Council's dwellings. They are unwholesome in themselves, and they involve an underground chamber that for many days together is filled with decaying vegetable and animal matter, and is difficult to empty without nuisance. The parishes met this view in different ways, but all fell into the idea better than I had expected, their men collecting the pails either in the yard or at the doors of the dwellings. But some architects of experience prefer the dust-shoot. Each tenement must have its own scullery and closet. Washing or drying accommodation was demanded by the Council, but not baths; and some arrangement must be made, perhaps in connection with a caretaker's lodge, by which the tenants could draw hot water for tea or for early breakfast. Food cupboards were not demanded.

Bearing in mind such conditions as these, so far as is practicable, we may proceed to consider the kind of dwelling that can be designed with reasonable expectation that it will be inhabited by the working man. Upon this point I may be permitted to say a word about the designs which were submitted in this competition. It was clearly laid down that the buildings must involve no charge on the rates, so that every outgoing which the Council would have to meet must be paid out of the rents. Some competitors showed covered playgrounds which occupied the place of rooms, and other luxuries, all very nice, were thrown in. All the designs were far too costly in plan or in elevations, or both, and for that reason none could be carried out.

The working man's dwelling is divided sharply from that of the ordinary clerk and from the "flat" by having no accommodation for a servant. It is inhabited by the family only; they wait on themselves and on each other. We may classify the usual kinds of block dwellings in this way:—

1. The self-contained dwelling, in which every part of it, with its offices, is inside its own outer door. This will be most costly to construct, but the management will be cheaper.

2. The associated dwelling, in which some or all of the offices are either used in common or are at least separate from the living rooms, and approached by the common passage or corridor. In proportion to the degree in which offices are used in common will be the expense of supervision by caretakers, and of work that will have to be done at the expense of the owner. The rent obtainable will be rather less.

There is great variety in the planning of each of these kinds of tenements so as to get a sufficient number of rooms from the staircase. Neither the staircase nor the passage will produce rent, and both are costly. There is also great variety in the office accommodation allowed to each tenant, as I shall be able to point out by specimen plans. This has a most important bearing on questions of cheapness and of rent.

For an example of a block of self-contained dwellings, I may take those built on the Cable Street area by the London County Council. They were designed after some previous experience which the Council had had, and they fulfil all the accepted conditions of such dwellings. There is through ventilation, the closet is separated by an open lobby from the dwelling, there are small sculleries with coppers so that the family washing may be done at home. The entrances are direct from the street, but there is a through passage on the ground floor for access to the yard, which is an element of cost. As only five habitable rooms are provided on each floor to each staircase, the plan, so far, is not economical; but there is not an inch of space wasted in passages inside the dwelling. The balconies are a pure luxury, but as they are much appreciated they probably contribute something towards the rent. For economy they might be left out.

Let me say here the little I have to say about external appearance. Our earliest blocks were of four storeys only, and were finished with flat roofs on which clothes were to be dried, and where the dwellers on the upper floors were to promenade or to play. The clothes were said to be more dirty after drying amongst the chimneys than before they were washed, and the tenants complained at first that they could hear footsteps on the flat down two storeys of the building. When we began building five-storey blocks, the plain square elevations gave dissatisfaction, so I took a good deal of pains with these Cable Street fronts, substituting Mansard roofs, varying the outlines and using bricks of different colours. They cost too much, and in later designs many devices were tried in order to get a decent appearance at a moderate cost. Some variety has been obtained by the use of cheap terra-cotta bricks and in other ways, and I think that quite as much money has been devoted to the elevations as can generally be afforded. A walk down Harley Street or past St. James's Palace brings home to one the question why a working man's dwelling should be made picturesque when he does not require it and will not pay for it. It is done to please the owner, and he ought to pay for it.

Usually in a self-contained dwelling from five to six rooms, forming two tenements, are approached on each floor from each staircase. I have seen designs in which there is a staircase to four rooms, but these hardly come within the sphere of practical architecture as applied to this question. So far as I know, the only plan of self-contained dwellings in which more than six rooms are accessible on one floor from one staircase is that intended to be carried out in the block called Gainsborough Buildings at Millbank. This contains ten rooms per staircase, and the through ventilation, if not so perfect as in some other types of plan, is, I think, practically sufficient. The weakest point is the two-rooms tenement, which for through ventilation depends entirely on the entrance door opening from the staircase. This is a reason for leaving all staircase openings unglazed and for putting a fanlight, made to open, over the entrance doors of the tenement. If the occupiers persist in keeping the fanlight closed they must take the consequences. I have known them get the staircase openings closed also, and I quite think it must be worse for them; but up to this date I do not know that it has told on the statistics of death or illness in the particular buildings where this has been done. I anticipate that this plan will be cheap, as the cost of the staircase, a very expensive item, is divided amongst fifty habitable rooms, whereas the cost of the staircase in all other through ventilated plans of self-contained dwellings known to me is divided between only twenty or thirty rooms—a very material difference But, on the other hand, there is some waste of room in internal passages, and so the economy of this plan remains to be tested.

It will be observed that in both these self-contained plans there are rather considerable breaks in the lines of the outer walls This cannot be so economical as a perfectly rectangular plan in which the area is well utilised for rent-producing space. Probably a plan with nearly straight elevations, and with a depth of about 28 feet from front to back, is the most economical arrangement.

In both these plans every desirable part of the dwelling is enclosed within the entrance door, for the scullery has a copper, and a washhouse would be unnecessary. If there is a public washhouse near, it is not necessary to make the scullery so large. The closets are cut off from the tenement by an open lobby; if the occupiers close up the opening by old sacks and cube-sugar boxes, the results, if any, will be duly worked out by the Registrar-General It has not been unusual in artisans dwellings to enter the closet from the scullery, but the regulations under the Public Health Act now prohibit this arrangement, because food is, or may be, prepared in the scullery.

A third arrangement of self-contained tenements is shown in a block that is about to be erected by the Council at Poplar. It may be called a gallery plan, for all the tenements are approached from galleries that extend along the front of each storey. This means of access has been adopted in many places, and the idea is tempting as the planning is most simple. The block is perfectly rectangular, and one staircase will serve a large number of dwellings. Still, the cost of the balconies must be a considerable item. Extreme sanitarians object to the obstruction of light by the projecting balcony. If you offer to enlarge the windows they say the balcony still obstructs direct sunshine, but if in the future we are all to have all our rooms fully exposed to the sun it is a serious innovation, and I do not think the beginning can be made with houses of this class. Many persons, however, who are just able to stand the air in the street, may find that in times of storm the balconies of the higher storeys are too much exposed. The Corporation of Manchester has covered a large square plot with dwellings on the gallery plan surrounding an open court, and this gives a considerable amount of shelter, as the galleries face the court. Galleries in exposed places might have their railings lined with corrugated iron, though this would obstruct the view of the street. But the value of a view of the street from upper windows may easily be exaggerated.

So far I have assumed that the site will only permit the block to be lighted in front and in rear, but there are cases where light can be got all round. Such a case is the Council's block in Brooke's Market, Holborn, where the self-contained dwellings are arranged with much greater facility than can usually be done. In a square block like this there need be no waste space. Some of these bedrooms are entered from sculleries, which, however, are unusually well lighted and ventilated; they might just as easily be entered from the living rooms.

Associated dwellings vary greatly in the extent to which the common use of the offices may be carried. Both the closets and the sculleries may be detached, and so placed as to be entered from a corridor. This will prevent the access of foul air from these places direct to the habitable rooms; but if occupiers are induced to keep their solid and liquid refuse too long in the rooms this advantage is only theoretical. And if the rooms, instead of having a through current of the fresh outer air, are ventilated largely from a corridor which gets the flavour of the sinks and closets, the result may be unsatisfactory. Of these flavours, that of the sink is most difficult to prevent, Our modern closets, if managed with any intelligence, ought to be free from smell.

If the closets and sinks are to be kept clean by the tenants, there must be a separate set for each tenant, the closets, at least, being kept locked. This very much reduces the economy of the associated arrangement—indeed, it is not really "associated" if the offices are still kept exclusively for the respective tenements. There are objections to the arrangement of closets in a corridor where everybody using them is under the observation of neighbours; there are objections to closets or groups of closets being too much secluded, as they become lurking-places for rough and mischievous youth; there are objections (which may find expression in reduced rental) if a tenement is approached through an avenue of closets and sinks. If the class for which we are providing dwellings is indifferent to these considerations, sensitiveness in such matters may be expected to increase.

In Sonning Buildings four tenements on each floor consisting of thirteen rooms are approached from one staircase. All closets are detached and are grouped together near the staircase, one being allotted to each tenement. One small scullery for drawing water but not for working is common to the four tenements.

In Taplow Buildings five tenements on each floor, consisting of thirteen rooms, are approached from one staircase. In two cases the closet and scullery are included in the tenement, which is therefore self-contained, and in the three remaining cases the closets are approached from the corridor, one scullery sink being common to the three.

In all these cases of associated dwellings, although as many as thirteen rooms are approached from one staircase, there is a rather large proportion of passage, and in a large part of the block there is only one line of living rooms instead of two, which is uneconomical. There is some saving in cost, but on the other hand there is, as I have said, some reduction in rental value as compared with the self-contained plan.

I should be inclined to adopt, as a rule, the self-contained plan, each tenant being responsible for his own dwelling. But where this would be beyond the reach of the class to be provided for, I should dispense altogether with the scullery, the housework being done in the living-room. In that case the water-tap, with the place for dust-pail, would be in the open lobby disconnecting the closet from the tenement.

If a lower class of tenement should be required it might be on the associated plan. The group of four tenements off one staircase might have two closets only, one for men and the other for women, and one draw-off tap. People of this class—I mean families earning very low wages—do not keep perishable food in the house and do not need a ventilated larder. The amount of dust which they have to dispose of is extremely small; if they should object to carry it downstairs, a perpendicular distance of 13 yards at the most, to a dustbin in the yard, I should say they do not really want a new dwelling, but ought to make shift in an old one.

Mention has been made of the provision for hot water at certain times. This great convenience was first afforded by the Guinness Trust in dwellings designed by Mr. Macartney. Many other conveniences may be suggested, some of which may be made remunerative.

I think that in addition to the common dustbin in the yard, which should always be provided, there should be closets and urinals, which would diminish the use of the men's closets upstairs. Some kind of shed or workroom might be given where the men could do little repairs for themselves. The men would probably pay a trifle for small lockers that would hold a labourer's tools; street tradesmen in some districts would pay for sheds just large enough to hold a barrow with their stock during the night. In the Dufferin Street dwellings, undertaken specially for costermongers, stables for donkeys were provided. In several cases the County Council has utilised a portion of a rather large back yard by making two-storey workshops, of which the tenants of dwellings have the first chance.

With regard to washing accommodation, it will pay in highly rented dwellings, and it may be possible in cheaper dwellings to provide a small washhouse for every five tenements, which will allow of its use by each tenant one day in the week, Saturday not being a washing day. If the washhouses are amongst the dwellings the air is often full of moisture from the steam, and the smell is unpleasant. I think it best to put them in the yard, or they may be put on the top of the dwellings. In the Boundary Street area the County Council has provided one large common washhouse with all modern contrivances, as well as a club-room; but you cannot saddle the poorest class of tenants with the cost of such conveniences, unless perhaps where a very large number of dwellings are built.

I have thought it best to use, both for illustration and for criticism, the designs that have been carried out under my direction by the London County Council. They have been designed under conditions of extreme pressure from various quarters. The Council has had to charge only the rents ruling in the localities in which it was building, and out of the rents has had to meet all outgoings and the sinking fund for repay-ment of cost of buildings and land which the Treasury very needlessly, as we think, demands. They have had to be designed under hygienic conditions imposed by Government departments that are not imposed by Building Acts or carried out voluntarily by those who build or live in other classes of dwellings. I have pleasure in acknowledging the great skill and energy that has been brought to bear on every detail by Mr. Owen Fleming, in charge of the housing branch of the architect's department, and his colleagues. I have often had to acknowledge valuable hints received from friends who have had long experience in the design of workmen's dwellings, and we have now to thank those gentlemen for lending their most recent plans to illustrate this paper.

I should like to draw attention to the great variety there is in these plans, and at the same time to say that, so far as I know, they have in every case been found highly suited to the requirements of working men's families. This may result partly from careful administration and partly from variety in the taste of the tenants, and I think it tells against a rigid adherence to any one particular plan.

One might have hoped that on any subject connected with block dwellings valuable lessons could be learned from continental cities, where large buildings, consisting of many tenements, are the rule. But after searching the chief of these cities, particularly in Germany, and consulting many books, I am surprised at the poor results. The favourite plan just now seems to be to put blocks or rows of workmen's flats in yards behind flats of a superior class, an arrangement opposed to all our ideas Frequently the tenement consists of a rather large room which contains all the beds, with a smaller kitchen, probably used for sleeping, with use of a closet that serves for several occupants. Lodgers are often taken who, including washing, pay a material portion of the rent. There is a system of providing a lodger's room with entrance from the staircase as well as from the tenement, and where two such rooms adjoin they might be let as a complete tenement.

I see that when we first discussed this matter in Mr. Darbyshire's paper, I insisted that it was essential for these buildings to be made to pay, so as to induce capitalists to invest money in them. I see every reason to repeat that view after a further experience of six-and-thirty years, and I am afraid that, owing to the increased cost of building, this becomes year by year a matter of greater difficulty. I must leave the question of cost untouched just now. I hope, however, that the discussion of this paper may bring out ideas helpful towards the solution of the housing question, which, as regards the working population of our towns, is the great question of the present day.

The President said he was inclined to disagree with Mr. Blashill as to the success financially of the workmen's dwellings schemes Considering the present price of building it was practically impossible to make the speculation profitable. The question had become a State one, because it was necessary to house the poor properly. Separate or isolated buildings were the best. It was an advantage to have the light all round, both for cleanliness and sun.

Mr M. E. Macartney said too much attention could not be given to securing light and sun for buildings in blocks. The staircase should be excluded from the external air, because generally the staircase was used as an extra living-room or playing-room for the children, and if it was exposed to the external air at all seasons of the year it would not be a very suitable place for children's games. An internal staircase with a good-sized well-hole and a door at the bottom which could not be closed entirely was the best method of construction. Many medical men were of the same opinion.

Mr. Owen Fleming said in the question of housing the poor he had only rendered humble assistance. Behind all the plans of these block dwellings there must always be the question of finance—it ruled the architect's schemes The probable poverty of the tenants must be considered, and the best attainable must be given for their money. Ventilation should not be overdone, and self-contained tenements were the best. It was wrong to think the children in such dwellings played on the staircase; they played in the yard. He thought Mr. Macartney's experience was novel. The open staircase had many advantages, and he hoped the County Council would ever remain firm against all those to be constructed internally. Attention, too, ought to be paid to the external appearance of such dwellings, as the inmates could appreciate good architecture. Whatever views architects might have regarding block tenements, whenever attempting such work they must make their scheme show a profit, otherwise the design would fail

Mr. W. H. Seth-Smith proposed a vote of thanks, which was seconded by Mr. F. G. F. Hooper. Messrs. C. Joseph, jun., H. W. Pratt, F. W. Lane and C. H. Brodie also joined in the discussion.

It was announced that at the next meeting, to be held on February 23, a paper would be read by Mr. A. W. Hennings on "The exterior treatment of sharp or acute angles in street buildings," illustrated by lantern views.

THE BRISTOL ELECTRICAL COMMITTEE AND THEIR ARCHITECT.

THE following correspondence has passed between Mr. H. Williams, architect, and the Bristol Electricity Department:—

24 Clare Street, Bristol: February 10, 1900.

Sir,—I beg to submit to you a copy of a letter sent to the electrical committee, together with their reply.

May I respectfully point out to you that the committee were willing to pay the sum of 800*l.* per annum ground-rent for one acre of land in Temple Backs, the price asked being 900*l.* per annum. Capitalised value for the freehold at twenty-five years' purchase 22,500*l.* for one acre. I found, negotiated and purchased for the committee over 9¼ acres of freehold land, far more eligible, with water frontage and access to the railway, the price for the whole being 14,492*l.* 10*s.*

Having thus saved the city several thousands of pounds, it is now proposed to deprive me of the appointment of architect that was given me unasked.

I consider this most unfair, and I cannot believe that the Town Council will consent to my being treated in this way.

If an apology is necessary for troubling you in the matter, it is that in your official position you ought to be made acquainted with the fact.—I am, your obedient servant,

HENRY WILLIAMS.

(COPY.)

24 Clare Street, Bristol: January 25, 1900.

To the Chairman and committee,
Electricity Department, Bristol.

Gentlemen,—On June 15 last I received a letter from your secretary as follows:—

City and County of Bristol, Electricity Department,
Temple Backs, June 15, 1899.

Dear Sir,—The electricity committee at their meeting on the 9th inst. appointed you architect for the proposed extension of the central electric-lighting station upon the usual terms as regards fees, but with the express understanding that the superstructure is to be of the cheapest possible character without sacrificing efficiency.

The committee desire you to prepare alternate plans for foundations and superstructure, separate and together, and they wish you to advise them whether three stacks of the dimensions of the existing stacks or two stacks of larger dimensions would be the most economical.—Yours faithfully,

FRANK W. PROSSER, Secretary.

Henry Williams, Esq., architect,
Clare Street, Bristol.

In reply I wrote thus:—

24 Clare Street, Bristol: June, 1899.

Dear Sir,—I beg to acknowledge receipt of your letter of the 15th, and will at once proceed with the plans for the proposed extension of the central electric-lighting station.

Special attention will be given by me in carrying out the instructions from the committee (mentioned in your letter).

I beg to tender my best thanks to the committee for appointing me architect for the proposed extension.—I am, dear sir, yours truly,

HENRY WILLIAMS.

F. Proctor, Esq.

I at once waited on your engineer, Mr. F. Proctor, and was informed by him that you contemplated purchasing a block of property about one acre in Temple Backs from the feoffees of Temple Church, and that negotiations were in progress.

I saw Mr. F. Proctor, Mr. P. Addie (city valuer) and Mr. Scrase (churchwarden) at various times, and did all I possibly could to push forward the negotiations. Ultimately the negotiations fell through, and in July last I was instructed to make borings on land at Crew's Hole (which I did), with a view of land there being purchased for the further extension of your works.

In July I was instructed to look for a suitable site for the further extension of your electrical works. I inspected the land in St. Philip's Marsh belonging to Messrs. Thomas, and recommended your committee to purchase a portion of it I was instructed to negotiate with Messrs Thomas, and succeeded in obtaining terms which you decided to accept, and you thereupon purchased the land.

In August last I received a letter from your secretary as follows:—

Temple Back, Bristol: August 28, 1899.

H. Williams, Esq., Clare Street.

Dear Sir,—The electrical committee at their meeting on Friday last resolved to instruct you to proceed with the plans and specifications for additional buildings on the site of the Potters' Arms and Rain's warehouse.—Yours faithfully,

FRANK WM. PROSSER, Secretary.

I at once made the plans and submitted them to your engineer. It was afterwards decided by you that the space being so limited, having only accommodation for one engine and dynamo, the idea should be abandoned.

In November last I received a letter thus:—

Temple Back, Bristol: November 11, 1899.

H. Williams, Esq., Clare Street.

Dear Sir,—At a meeting of the electrical committee held yesterday it was resolved to appoint you architect for the foundations of the proposed building at Avonbank, and the engineer was authorised to give you the necessary instructions for the boring and piling.—Yours faithfully,

Frank Wm. Prosser, Secretary.

These plans have been made and handed to your engineer.

On January 19 he wrote me a letter thus:—

Temple Back, Bristol: January 19, 1900.

Dear Sir,—Referring to your Mr. Sargent's call, we hope to be able to give you our final instructions and drawings of our requirements for the Avonbank station foundations by next Wednesday or Thursday.—Yours faithfully,

H. Faraday Proctor, City Electrical Engineer.

It will be seen by the foregoing correspondence that my appointment as architect has been confirmed from time to time, and that my engagement applied also to the new site.

Several months ago I was requested to attend at the chairman's office to meet him and the vice-chairman, which I did. I was informed by the chairman that it was intended to considerably increase the size of the works, but at that time the committee did not own any property excepting a small public-house (Potters' Arms), and no scheme had been decided upon as regards the site of the proposed extension of the works, but the matter was under consideration. I was asked by the chairman whether, in the event of my being employed as architect, I would reduce my charges below 5 per cent. on the outlay as hitherto charged by me. I replied I could not; it would ruin my reputation and disgrace the Corporation I also pointed out that there was a resolution passed by the Council that the trade rate of wages was to be paid by their contractors. The outcome of this interview was that I received my appointment dated June 15, 1899

On Friday last I called on the chairman and asked him whether the committee intended me to carry out the superstructure, and he informed me they did not—that their engineer would do so I showed him an advertisement by your committee for a draughtsman which appeared in the *Electrical Review*, and which draughtsman is, I understand, now employed by the committee

I cannot understand this attempt to shelve me from the position to which I have been deliberately appointed; and I cannot for one moment believe that the committee desire to do otherwise than to act by me in a fair and honourable manner. It is perfectly clear that a very large extension was contemplated. It is also perfectly clear that if I had not succeeded in obtaining for you a more eligible site than the one which was originally proposed, your committee would have been morally bound by their letter of appointment. The fact of my having obtained at considerable trouble a better site and upon reasonable terms appears to be used as an argument for not employing me as your architect for the superstructure. I cannot too strongly protest against this treatment, and must again ask your kind attention to the unqualified terms of the secretary's letter to me of June 15, whereby I was unconditionally appointed your architect. I cannot help thinking that after your committee has given a fair and impartial consideration to what I have said, they must come to the conclusion that I ought to be entrusted with the designing of the superstructure at Avonbank.

I must apologise for having troubled you at this length, but the importance of the matter to me must be my excuse.—Awaiting the favour of a reply, I am, your obedient servant,

Henry Williams.

Electricity Department, Temple Back:
February 9, 1900.

H. Williams, Esq., Clare Street.

Dear Sir,—I have submitted your letter of the 25th ult. to the electrical committee, and they have directed me to inform you that in appointing you on June 15, 1899, architect for the proposed extension of the central electric-lighting station, the committee had no intention of extending the appointment beyond what was expressed in the words used by me, which apply only to the proposed extension at Temple Back.

The building at Avonbank will be of a different character to that which you would have been asked to erect at Temple Back, and the committee think that it can well be erected by the electrical engineer. In these circumstances the committee, whilst regretting that you have misunderstood your appointment, feel that they are unable to employ you as an architect for the building at Avonbank.—Yours faithfully,

Frank W. Prosser, Secretary.

The letter in reply received from the secretary states:—"The building at Avonbank will be of a different character to that which you would have been asked to erect at Temple Back, and the committee think that it can well be erected by the electrical engineer."

My appointment, dated June 15, says:—"With the express understanding that the superstructure is to be of the cheapest possible character without sacrificing efficiency." It is perfectly clear that the committee could not erect at Avonbank a building cheaper than the cheapest which they intended to erect at Temple Back, and I certainly fail to see where the words "building of a different character" apply. I am aware that it is proposed to use Babcox & Wilson's boilers exclusively in the Avonbank station, but I would remind you that in the Temple Back station you have Babcox & Wilson's boilers and Lancashire boilers. How the character of the Avonbank station is to be altered I cannot understand. I would respectfully point out to you that if an architect presumed to ask you to employ him as an electrical engineer for the machinery, boilers and fitting up of your electrical works, you certainly would not do so, and consider it an absurdity. I venture to submit to you that for your committee to employ an electrical engineer to erect your buildings at a cost of several thousand pounds is an experiment (which your committee intend to carry out) if the Corporation decide that they should do so, unless the Corporation consider that it would be as great an absurdity for the engineer to carry out architect's work as it would be for the architect to carry out electrical engineer's work. Of course this is a matter entirely for your consideration.

PERSIAN TILES.

The student of the arts, industries and handicrafts of Persia, says the Vice Consul-General of the United States at Teheran, receives but little assistance from the writers of either ancient or modern times. Poets, historians, philosophers, romancists of classic fame never condescend to analyse or interpret for posterity the avocations or the labours of the people among whom they lived. They were, nevertheless, the slaves of the situation, and had to mould their style and subjects so as to procure the favour and patronage of kings. To magnify events and intensify their meaning and effect in all the vivid hues of oriental colouring, was the aim and business of the historian. His work has one recommendation: it is drawn to a scale. Everything is colossal, and to those not acquainted with his methods he appears to be impartial. Success or disaster, victory or defeat, prosperity or calamity, feasting or mourning, all receive the same treatment Nothing could be small, nothing insignificant. His imagination, not his judgment, secured the favour and earned the reward. It is not, therefore, surprising to find him silent on the minor, yet practical, realities of the national life.

To trace the course of any industry in Persia which has survived the ravages of time is an interesting study. The industrial activity, though unnoticed by the records, is very closely interwoven with the texture of the national life, and in its pictorial aspects reflects its peculiar and dominating characteristics. It will, moreover, be found that where the skill of the artist has been united to the handicraft of the artisan, the product has taken firm hold and has remained, under various forms and degrees of excellence, through every national, dynastic and religious change. This proposition receives its most practical illustration and proof in the industry associated with the manufacture of porcelain, glazed and encaustic tiles. Their invention lies far back in the twilight of history. They have been excavated in their almost original lustre from the buried cities and entombed palaces of Babylonia, Persia and Media, and are now the treasures of the museums of the West.

Tiles, in their pictorial aspect, have had considerable variety of form and representation. In one instance a tile contains a complete picture, while in another it may form a small section of a large composition.

In the early stages of the art the surface of the tiles appears to have been generally smooth and flat, while in later developments raised or embossed figures have entered largely into the design, especially for mural and frieze ornamentation. The æsthetic idea was generally modified to represent the character, the predilections and the policy of the reigning monarch of the period. Warriors in complete armour, hunting, feasting and religious devotions diversified the illustrative scenes. The artistic perceptions, though not always correct, have been generally free from the blemishes and luxurious depravity which have defaced other domains of art.

In the superiority of materials, in the delicacy of design, in the beauty of colouring and perfection of finish, nothing has perhaps equalled the work of the thirteenth, fourteenth and fifteenth centuries of the Christian era. The tiles produced during this period were generally devoted to the decoration of mosques, holy places, shrines and tombs of saints of the Mahommedan faith.

The centre is composed of flowers or geometrical figures, and the border consists of written passages from the Koran. A golden tint pervades the whole surface, sometimes united with a shade of blue, giving to the design a peculiar softness and charm. The materials and the method of producing this characteristic are now unknown, and hitherto no attempt to reproduce it has been successful either in Persia or Europe. One tile manufacturer in Teheran, after experimenting for many years, seems to be on the path of success.

How this beautiful art was lost to the world is a question often asked, but without eliciting any satisfactory answer. It is, however, generally known that certain departments of art workmanship were in former times confined to small communities, and not infrequently to the members and branches of one family, who looked upon themselves as close guilds and the possessors of special secrets, rights and privileges. This gave them profitable advantages, but it exposed their craft to absolute extinction. It is therefore not unreasonable to conclude that either by famine, pestilence, the sword or exile the art and the artist perished for ever. Twenty years ago examples of this work could be bought for a trifling sum, but at the present time the finer specimens command ridiculously high prices.

It should be noted that vessels of household use, especially vases, ewers, basins and dishes, were made of the same materials, with the same glow and tint of colouring, but, being more delicate in texture and more fragile in form, very few examples remain

At the present time two classes of tiles are made, the plain and the pictorial—the former in a variety of shades for flooring, and the latter chiefly for mural decorations. As a general rule tiled floors consist of alternate white and coloured rows, though some are laid in composite designs. The masonry of the gates of Teheran, the domes of mosques and shrines, and some public buildings are overlaid with variegated tiles in arabesque or mosaic designs. The effect is graceful, though decidedly oriental. The thickness of the tile varies from two-thirds of an inch to 3 inches. Those used on the outside of buildings are the thickest.

The material used in the composition of the groundwork consists of nine-tenths of pulverised quartz to one-tenth of strongly adhesive clay, and the glazing is compounded of flint and potash. All the minerals used in the manufacture of tiles and porcelain for groundwork, glazing and colouring are found in the country.

With our preconceived notions of complicated manufacturing processes, it is difficult to imagine that the most beautiful carpets in the world are the product of the gipsy's tent; or that the glowing surface of the ornamental tile can have received its shape, colour and hardening in a mud hut, with no more machinery than a pestle and mortar and an ordinary knife. In such surroundings, organised labour troubles have not much scope for operation.

No sanitary laws exist for the regulation of workshops, or even a general inspection of the conditions of living and habitation. In this respect every many is a law to himself.

No insurance society has so far been organised in Persia, either for life or property, though some English companies insure goods in transit in the interior, and a Dutch agency is trying to introduce the system of life insurance.

The social conditions and religious prejudices and restrictions prohibit to a very large extent the employment of female labour in factories or workshops. Carpet weaving seems to be the only industry in which their services are utilised.

The Persian Government gives no encouragement and lends no aid to native industries beyond being a purchaser of the goods produced. A little help in reviving old arts and supporting modern ones would benefit a large section of the population and give an impetus to the exercise of artistic and mechanical skill.

The tile will continue to be used as a covering and ornament for the domes, cupolas and minarets, both inside and outside of mosques and other sacred buildings, but for houses and public buildings it seems to be gradually falling out of the taste and fashion of the times and giving way to simpler and cheaper materials. For durability it is superior to anything now in use, but the cement by which it is attached to the masonry lacks the proper adhesive qualities and it often separates and falls away.

The tile business of Persia is very humble and simple. The most extensive is carried on, from pulverising the quartz to putting the finished article on the market, by the proprietor, his son and four helpers. Under such industrial conditions not much room is left for the contractor and sub-contractor, and yet I believe such divisions are not unusual.

It is difficult to give an estimate of the prices of tiles, for the variety of shape, ornament and size seem to almost equal the number of tiles produced, and each has a different price. But as a formula to include all, it may be stated that floors, dados, borders, window-seats, &c., can be fitted up from 3 dols. to 15 dols. per square yard.

Hitherto the foreign demand for this product has been comparatively small. Orders have been executed for London and Paris. The heavy cost of transport is the chief hindrance to the export trade. So long as the camel, the mule and the ass are the only freight vehicles, Persian industries will labour under great disadvantages. The rates for carriage are for tiles the same as for every species of merchandise, viz. from eight to twelve cents a ton per mile, which means from Teheran to Bushire, exclusive of Customs and commission, 80 dols.

The free and untrammelled adoption by Persia of improved methods of transport and communication and the development of the resources of the country are being greatly impeded by monopolies, concessions and conventions, which, instead of infusing new life into native industries and utilising natural products so as to give increased employment to the population, either cause industries to lapse into a state of decrepitude or inanity, or are used as instruments to foster the processes of decay.

When Persia can shake herself free from these shackles of foreign drags and interference, and give freedom, instruction and help to native enterprises, then and not till then may she hope to take her place as one of the producing nations of the world.

The principal ornamental-tile makers of Teheran may be addressed as follows:—

Ustad Ali Mohammad, Hassanabad.
Seyd Habid, Kashi-paz, Khiaban-i-Ala-ed-Dowlah.

Mosaic work as understood among us does not exist in Persia.

EDINBURGH ARCHITECTURAL ASSOCIATION.

At a meeting of the Edinburgh Architectural Association in the Royal Institution, Princes Street, on the 6th inst., Professor Francis G. Baily, M.A., delivered a lecture on "Electric-light Wiring Systems." Mr. James Bruce, W.S., presided. In the course of his lecture Professor Baily explained that the materials used in the construction of cables were copper for the conductor and indiarubber or oiled or waxed paper for the most part for the insulator. From the dynamos to the buildings the conductors, he said, might be completely insulated, or one of them might be earthed. The latter method introduced complications if the distance were great. In a third method both were insulated, but one was connected to earth at the dynamos. On the three-wire system, as used in Edinburgh, this protected against excess of pressure on any consumer's premises. The effect of leaks depended upon the system that was used. The systems of distribution in buildings were the tree system and the separate circuit system. Combinations of the tree were frequently employed for convenience and economy. All systems required fuses or protective devices against excessive currents in the cables. These were most easily applied in the separate circuit system, with main and branch fuses, or with an intermediate set in large buildings. Repetition of fuses, he advised, should be avoided as far as possible. With reference to the construction of cables, Professor Baily said the wires should consist of three or more strands, the insulator be continuous and impervious to water, or be protected from the access of water. Moisture from plaster walls or mortar, oils, and heat were detrimental to indiarubber. The joints of cables were weak points owing to possible bad workmanship and the difficulty of adequately reproducing the original covering of the cable. The use of special joint boxes, he pointed out, avoided this danger. Cables, he went on to say, were protected by lead covering, wood casing, stranded iron wires, iron or steel pipes, the last being the most efficient. If buried in plaster the last was the only adequate protection against mechanical injury. In certain cases the concentric earthed system might be used, as it possessed some advantages. The connection of the cables to fittings, he next mentioned, was a source of possible danger, and the mechanical protection and the exclusion of moisture were not always properly carried out, while the junction between cables and flexible wires was often unsatisfactory. Professor Baily concluded by giving a summary of the requirements for a thoroughly safe system. The lecture was illustrated by diagrams, lantern slides and examples of materials and apparatus, and at the close the Professor was accorded a vote of thanks.

The new central fire station at Lauriston and the City Chambers extension buildings were visited on the 10th inst. by the Edinburgh Architectural Association. There was a large turn-out of members. Under the leadership of Mr. James A. Williamson, A.R.I B.A., interim city architect, the party was shown over the first-named buildings, and were much impressed by the completeness of the manner in which the station has been planned and equipped for the efficient working of the brigade. Nothing appeared to have been overlooked calculated to make the station one of the most complete in the kingdom. Referring to the question of site, Mr. Williamson drew attention to the difficulty experienced in Edinburgh to find a site sufficiently large and central to include space for the drilling of the men, an essential requisite in all modern fire brigade stations. Having regard to that difficulty, he stated that the Town Council had turned its attention to the Cattle Market, where, by restricting the actual buildings to a smaller area than would otherwise be possible, the market could be used when free for drill purposes, of which the advantage was obvious. The attention of the visitors was directed to the central position of the site, and, by means of a map of the city, Mr. Williamson showed that a circle, having the site of the new station as its centre, circumscribed the greater part of the area comprised within the city's municipal boundary, and said that the site was equally convenient as an approach to the various parts of the city by the thoroughfares of Lauriston, Lauriston Place and Lady Lawson Street. The company afterwards proceeded to the Council chambers, and were there shown over the new buildings, which were much admired for the completeness and appropriate architectural character. Reference was made to the comprehensive scheme of new municipal offices, of which the recently finished buildings are the first instalment. After tea had been served, Mr. James Bruce, W.S., president of the Association, moved a vote of thanks to Mr. Williamson, which was heartily accorded.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE usual monthly meeting of this Society was held in the library at the museum, Queen Street, Edinburgh, on the 12th inst., Mr. Gilbert Goudie in the chair. Before proceeding to the ordinary business, the meeting resolved to record their sense of the great loss the Society had sustained in the recent deaths of their president, the Marquis of Lothian, and Mr. James Macdonald, LL.D., one of their foreign secretaries. Lord Lothian held the office of president for nearly a quarter of a century, and to the influence which he exerted and the sagacious advice he was ever ready to give the present prosperous condition of the Society and of the National Museum under its charge may in a great measure be ascribed. The first paper read was a description of the towers of James V. at Holyrood Palace| by Mr. John Sinclair, F.S.A.Scot. As no thorough exposition either with respect to their characteristic exterior or their intricate internal structure had yet been given, he had been induced by the interest of the subject to make an attempt to supply the deficiency. After alluding to the description by John Young, Somerset Herald, of the palace in 1503, and noticing the entries in the Lord High Treasurer's accounts, he inferred from these and from a reference in 1515 to the Auld Tower of Holyrood that there was good ground for attributing the oldest part of the structure to James IV. From other circumstances it was inferred that the towers shown in the views of Hollar and Gordon of Rothiemay were the work of James V., a conclusion borne out by an elaborate examination of various points in connection with their external and internal construction, and their relation to other parts of the building as it existed in the time of Mary Stuart. After tracing the changes and extensions effected by Sir William Bruce, he concluded by giving a minute description of the interior arrangement of the older towers, the sole survivors of the original palace. In the second paper Dr. Ireland gave a rejoinder to the "Supplementary Notes on the Scottish de Quencys." Dr. Ireland observed that the name of Quincy was in all the copies of the Roll of Battle Abbey, and though interpolations had been made on this list, it was not likely that this would have done for so illustrious a family before the last of the male line expired in 1264. Dr. Ireland was now able to trace the De Quencys to the beginning of the twelfth century from a grant to the Priory of Dunmow Little by Saher de Quency, the father of another Saher, from his lands in Suffolk. Mr. Bain had tried to throw discredit upon the received accounts of the savage treatment of the Countess of Buchan and of the sister of Robert the Bruce, who fell into the hands of Edward I., from an extract of a contemporary document concerning the imprisonment of a Welshman in a cage in a house in Bristol Castle, where he was shut up at night. Dr. Ireland observed that it was too bold to assume that a cage at Bristol to imprison a Welshman must be of the same pattern as a cage in a turret at Berwick, especially designed by the greatest of the Plantagenets to torment a lady who would not submit to his usurpation. He gave a translation of the original order from Rymer's Fœdera, which proved that the Countess was imprisoned day and night in the cage, and fully confirmed the descriptions given by Tytler and Burton. He also showed that the daughter of William, the son of Ness, who married Robert de Quency and conveyed to him the lands of Leuchars, though mentioned as "filia orabilis" in the Cartulary of St. Andrews, calls herself Eva in the only known document issued by herself. In the charters extending and confirming the grants made by Robert de Quency to the Abbey of Newbotle, Seyr de Quency, his son, is styled Earl of Winchester. Amongst the witnesses to these grants is found the name of Jocelin, bishop of Glasgow, who was known to have died on April 26, 1199. Now, Seyr de Quency was not made Earl of Winchester till about eight years after, a consideration which throws suspicion upon the grants. We have not the original charters of the Abbey of Newbotle, but a parchment volume of unknown antiquity, which is now in the Advocates' Library. Dr. Ireland gave some additional notes which he had gathered about this once great but now forgotten Norman family. In conclusion, he thanked Mr. Bain for the additions which he had afforded to the research, and hoped that he would yet find time and opportunity to examine the hundred charters about the De Quencys in the library of Magdalen College, which could not fail to elicit facts illustrating the history both of Scotland and of England. In the third paper, Mr. Alexander Munro described a rude stone slab in the moorland at Strathy, Sutherlandshire, which bears on one face, very clearly incised, a cross of peculiar form, nearly 3 feet in length. The summit and the base, as well as the two arms, terminate in circles formed by the expansion of the two outer lines of the cross. In the centres of the four circular expansions are hollows or cups of about 3 inches in diameter, and in the centre of the cross are traces of a fifth cup. If these could be supposed to represent the cups and rings of the Pagan sculptures on rocks and stones, we might be justified in assigning to this cross a very early date; but whether it might be assigned to the seventh century or to the thirteenth, it was a cross of form unique in Scotland, and therefore of much archæological interest In the last paper Mr. William Buchan, F.S.A.Scot., gave a notice of a bronze scabbard tip of late Celtic type which was recently found newly thrown up in a mole-hill on the farm of Glencotho, in Holms Water, Peeblesshire. It is of cast-bronze and bifurcated to fit the end of the scabbard, having the outer surface ornamented by a wavy scroll of the peculiar curves of Late Celtic ornamentation. These curves combine in an ornament somewhat resembling a leaf or a bird's head, in the centre of which is a circular socket, which has been apparently filled with enamel.

Correspondence

Re Dumfries and Maxwelltown Public Library Competition.

SIR,—We noticed in your issue of January 5 an account of the above competition, and we, being one of the competitors, think it is in the interest of the profession that a few facts should be brought to your notice.

It appears that the choice in the final selection lay between the drawings numbered 3 and 4, and that No. 4 was adopted by the committee by a majority of twelve to three. Our drawings and specification are each marked No. 4, and when the drawings were returned to us we naturally wrote to the committee asking for an explanation. After writing twice and waiting some time we received a letter from them stating our drawings were not marked No. 4, but you will see by the drawings themselves that this is not correct. Another point that may be of interest is the fact that about a fortnight before the drawings were to be sent in (and of course by that time architects would have their designs almost completed) we received a notice from the councils stating that the foundation-stone was laid on September 15, but that it would not affect the preparation of the plans in any way.

We venture to suggest that it would have been impossible to lay the foundation-stone unless a plan had been decided upon, and also the position in which the stone was to be placed.

We enclose you copy of our correspondence with the councils, and shall be obliged if you will give publicity to same in your paper as another instance of the curious way in which some competitions are conducted.—Yours faithfully,

ROBB & GRIERSON.

Imperial Buildings, Ludgate Circus, London, E.C.:
February 7, 1900.

Re Dumfries and Maxwelltown Public Library.

Town Hall, Dumfries: September 16, 1899.

SIR,—I beg to inform you, to prevent any misunderstanding on the part of competing architects, that the foundation-stone of this building was laid on Friday last, to suit the convenience of the donors.

It is not, however, intended that this should affect the preparation of plans in any way.—I am, yours faithfully,

JOHN GRIERSON, Clerk to the Joint Councils.

Imperial Buildings, Ludgate Circus, E.C. :
January 23, 1900.

Re Dumfries and Maxwelltown Public Library Competition.

SIR,—We enclose you report of above competition that appeared in *The Architect* of January 5, and kindly ask you for an explanation.

It appears from the report that the final choice lay between Nos. 3 and 4, and the committee, by a majority of twelve to three, resolved to recommend the adoption of No. 4, and it states "the author of this plan was generally known to be Mr. Alan B. Crombie, of Dumfries" (rather an unusual thing in a competition where all the competitors are supposed to be unknown). Possibly the foundation-stone having been laid before or on September 16, 1899, may account for it.

We beg to say that all our drawings are marked No. 4, which number is also on the wooden case enclosing them, and it is on that account that we ask for an explanation.

At the same time, it is usual for each of the competitors to receive a copy of the assessor's report, and it is only fair for us to ask you to forward one

Awaiting your early reply, we are, yours faithfully,

ROBB & GRIERSON.

J. Grierson, Esq., Town Hall, Dumfries, N.B.

Imperial Buildings, Ludgate Circus, E.C. :
January 31, 1900.

Re Dumfries and Maxwelltown Public Library Competition.

SIR,—We have been expecting a reply to our letter of 23rd inst., in which we enclosed a cutting from *The Architect* of January 5 with reference to the above competition. Will you please let us hear from you by return, with a copy of the assessor's report?—Yours faithfully,

ROBB & GRIERSON.

J. Grierson, Esq., Town Hall, Dumfries, N.B.

Town Hall Buildings, Dumfries :
February 2, 1900.

Public Library.

SIRS,—Yours of 23rd and 31st ult. were duly received. Your plan was not marked No. 4 by the assessor, but No. 6. It is not the intention of the councils to furnish copies of the assessor's report to architects.—I am, yours faithfully,

SAM BROWN,
Town Clerk depute.

Messrs. Robb & Grierson,
Imperial Buildings, Ludgate Circus, London, E.C.

H. B. Walmisley.

SIR,—I was pleased to observe in the last instalment of the interesting "History of Stained-Glass in England" a reference to the memorial-window to Henry Beaumont Walmisley, in the church of Holy Trinity, Bessboro' Gardens. Had his life been prolonged, Walmisley would undoubtedly have risen to considerable eminence in his profession.

He was born at 18 Cowley Street, Westminster—the house remaining almost in statu quo—March 11, 1830. His father, Thomas Forbes Walmisley, a distinguished glee-writer and a prominent member of the musical world of London in his day, was, from 1814 until his retirement in 1852, organist of St. Martin-in-the-Fields. His grandfather, William Walmisley, was Clerk of the Papers to the House of Lords, while his mother was the daughter of William Capon, draughtsman to the Duke of York, and a famous architectural scene-painter. Thomas Attwood Walmisley, M.A. and Mus D. Cantab., his eldest brother, one of our most distinguished church composers, was professor of music in the University of Cambridge, and organist of Trinity and St. John's Colleges. Another brother, the Rev. Horatio Walmisley, is at present vicar of Iffley, near Oxford.

At the age of ten Henry Beaumont was admitted a chorister of New College, Oxford, under the auspices of the Rev Peter Maurice, chaplain of that Society, and while there he had the advantage of studying under Dr. Stephen Elvey, the organist. A remarkably pleasing portrait in oils, representing him as a boy in New College choir, is in the possession of my friend, Mr. Arthur Walmisley, another of his brothers. When his voice broke in 1845 he entered King's College School, Strand, where he gained many prizes, becoming in 1850 assistant to Dr. Major, the distinguished head master. While here he wrote two poems, which were printed. In 1853 he was appointed organist to Holy Trinity, Westminster, a post he resigned in 1856 on his proceeding to Hanover with a classical pupil. He played on the organ, and conducted concerts before the king and queen, and was presented by them with a valuable ring. He returned to England in 1857, and died at his father's house in Cowley Street on October 13, surviving his brother, the Cambridge professor, a little over a year. He was buried in Brompton Cemetery. His compositions include a set of six songs, published by subscription in 1853, and a Christmas carol, "Hark! what sounds are sweetly stealing," printed in the Rev. Dr. Maurice's "Choral Harmony."

The painted window in Holy Trinity Church was subscribed for by the boys of his choir, the minor Canons of Westminster and Archdeacon Bentinck, the founder of the church. Thinking the above details might interest your readers who are fond of church music—I am, yours faithfully,

JOHN S. BUMPUS.

Glebelands, Stoke Newington: February 11.

GENERAL.

The Trustees of the Wallace Collection hope to open the rooms in Manchester Square in the course of next May.

The Gross Value of the estate of Mr. George Furness, formerly a contractor for part of the main drainage works and the Thames Embankment, who died on the 9th ult., aged seventy-eight years, is 303,826*l.*

Mr. A. Walker, of Hobart, obtained the first prize of 150*l.* in the competition for the local post office; the second prize was awarded to Messrs. Robertson & Marks, of Sydney.

Mr. Van Norman McGee has been appointed to the chair of civil engineering at the Chinese Imperial University at Tien Tsin

The Belfast Harbour Commissioners intend to extend the shed in York Dock at a cost of 8,500*l.*

The Ayrshire and Galloway Archæological Association having a balance of about 170*l.* in hand, part of the money will be given to the restoration of Glenluce Abbey, and the remainder for the restoration of Crossraguel Abbey.

Kelvingrove House, Glasgow, which was erected from the plans of Robert Adam, is now being demolished in order to provide a site for the concert hall of the Glasgow Exhibition, which is to be opened next year.

An Additional Lock is to be constructed at Teddington which will be the largest on the Thames. Its length will be 650 feet and the width 25 feet. The estimated cost is 20,000*l.*

Mr. Edwin Bale will read a paper on "Artistic Copyright" before the Society of Arts on Wednesday next. Sir L. Alma Tadema, R A., will preside.

A Paper on "The Legal Position of Architects in Relation to Local Authorities" will be read by Mr. E. J. Naldvelt, barrister-at-law, before the Society of Architects on Thursday next.

Mr. George Hepworth, architect, Brighouse, has taken first prize for his set of designs, marked "Excelsior," for the proposed public baths to be erected by the Elland District Council.

The Estate has been valued at 215,672*l.* 9*s.* 6*d.* gross, and 166,535*l.* 6*s.* 1*d.* net, of Mr. George Pearson of Brickendonbury, Herts (formerly of Bradford), and of S. Pearson & Son, Limited, contractors, 10 Victoria Street, London, who died on March 3 last, aged sixty-five years, and whose will bears the date December 21, 1895.

The Second annual banquet of the allied professions of civil engineers, architects and surveyors of Newport and district was held at the Westgate Hotel, Newport, on the 9th inst. Mr. W. Stopford Smyth, M.I.C.E., president for the year, occupied the chair, and was supported by the mayor (Mr. Greenland), Mr. A. Swash (vice-chairman), Mr. R. H. Haynes (borough engineer), and others.

It has been decided to restore the south transept of Chester Cathedral, and place a monument therein as a memorial to the late Duke of Westminster. It was one of the Duke's most cherished desires to see the transept restored, and this memorial, it is felt, will be the most suitable scheme. It will cost about 10,000*l.* A representative committee has been formed, with Sir Horatio Lloyd and the Mayor of Chester as honorary secretaries.

School of Art Wood-Carving.—As the rooms at present occupied by the school in the Imperial Institute buildings have been handed over to the London University, the day classes and a special Saturday afternoon class for those pupils who cannot otherwise attend will after March 1 be carried on in the North Gallery of that building. But the evening classes will necessarily for the present be closed. Some of the free studentships maintained by means of funds granted to the school by the City and Guilds Institute and the Company of Drapers are vacant, and forms of application for these and further particulars relating to the school may be obtained from the manager.

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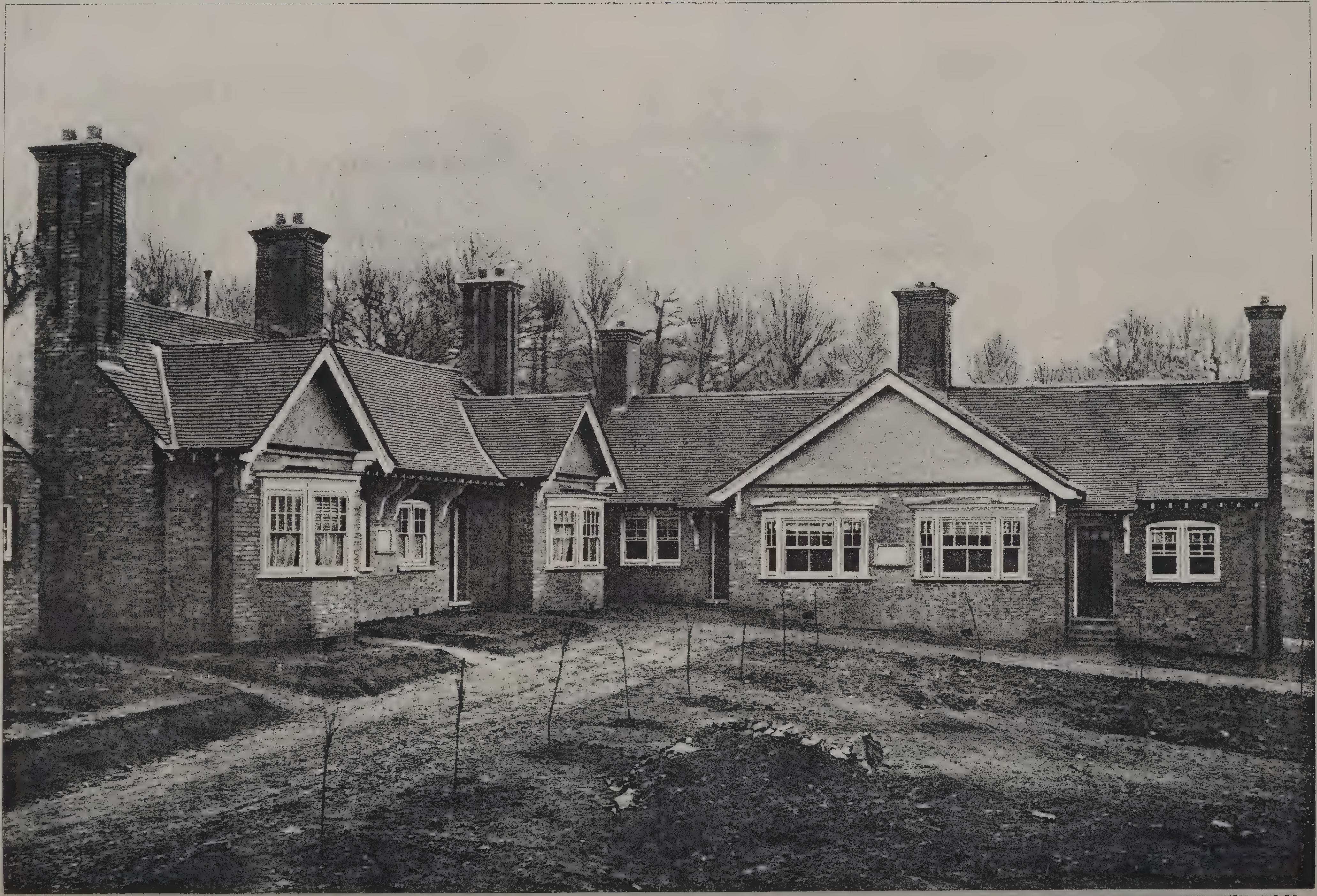

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THE LINEN AND WOOLLEN DRAPERS' INSTITUTION COTTAGE HOMES, MILL HILL, MIDDLESEX.

A VIEW IN ONE OF THE QUADRANGLES.

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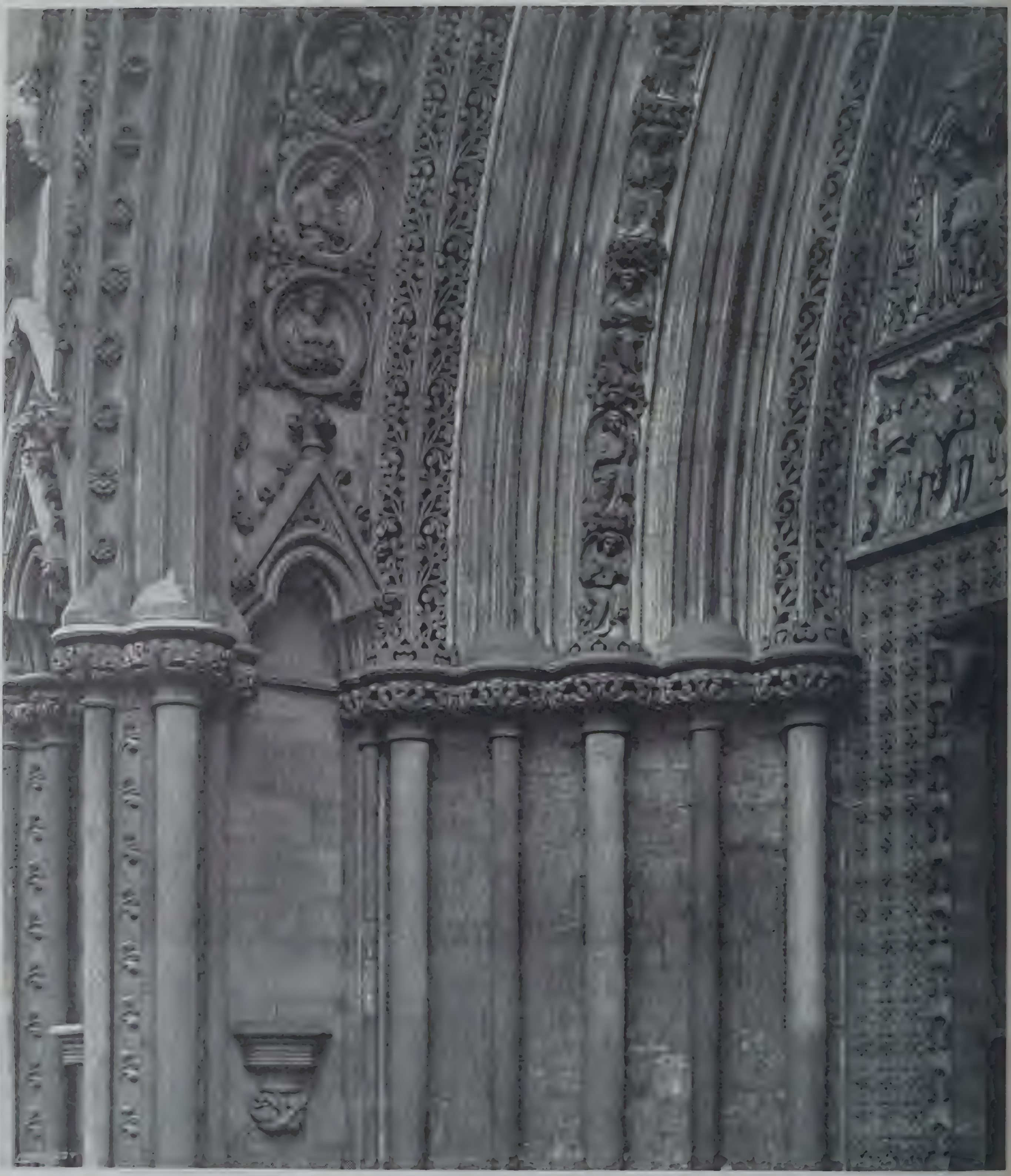

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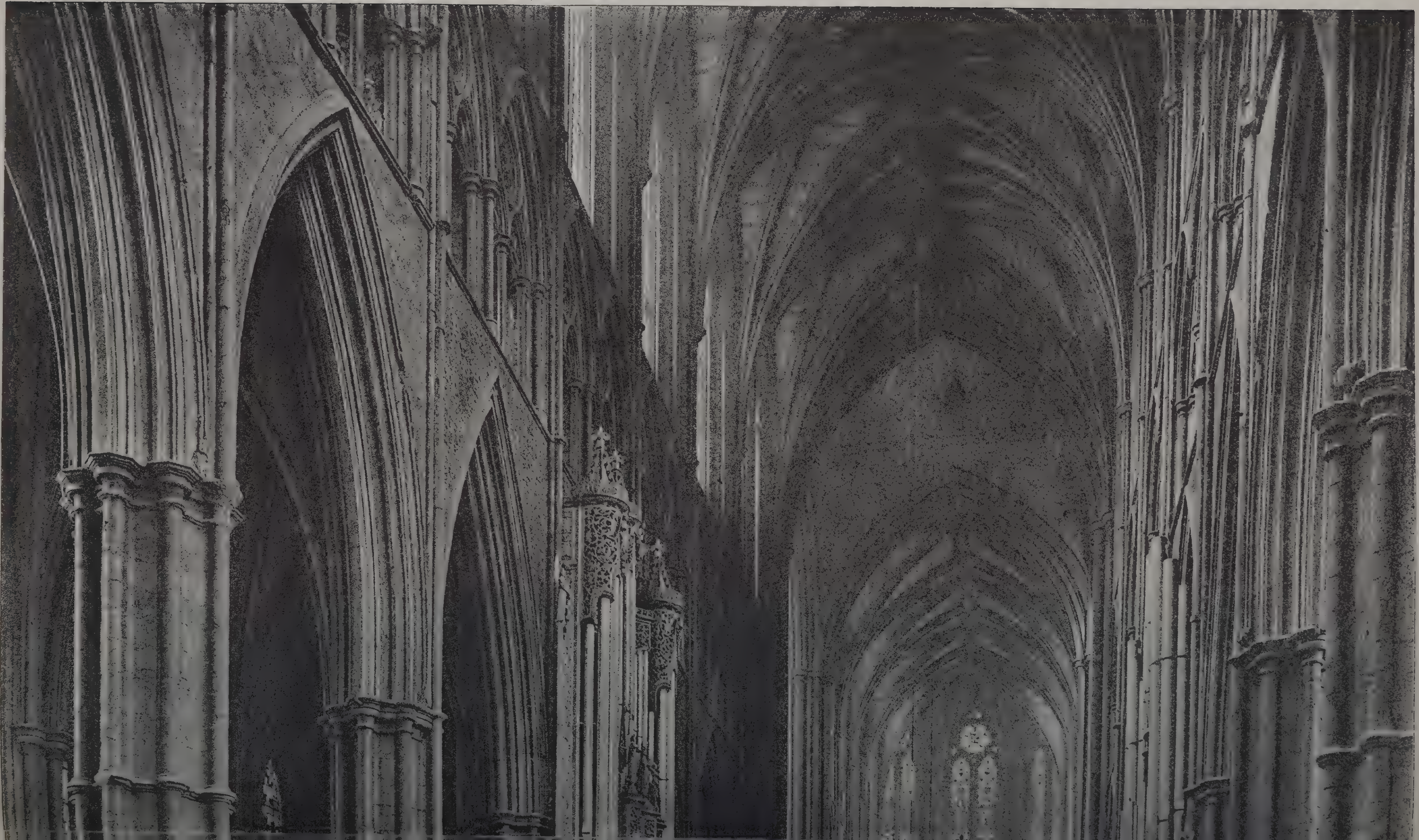
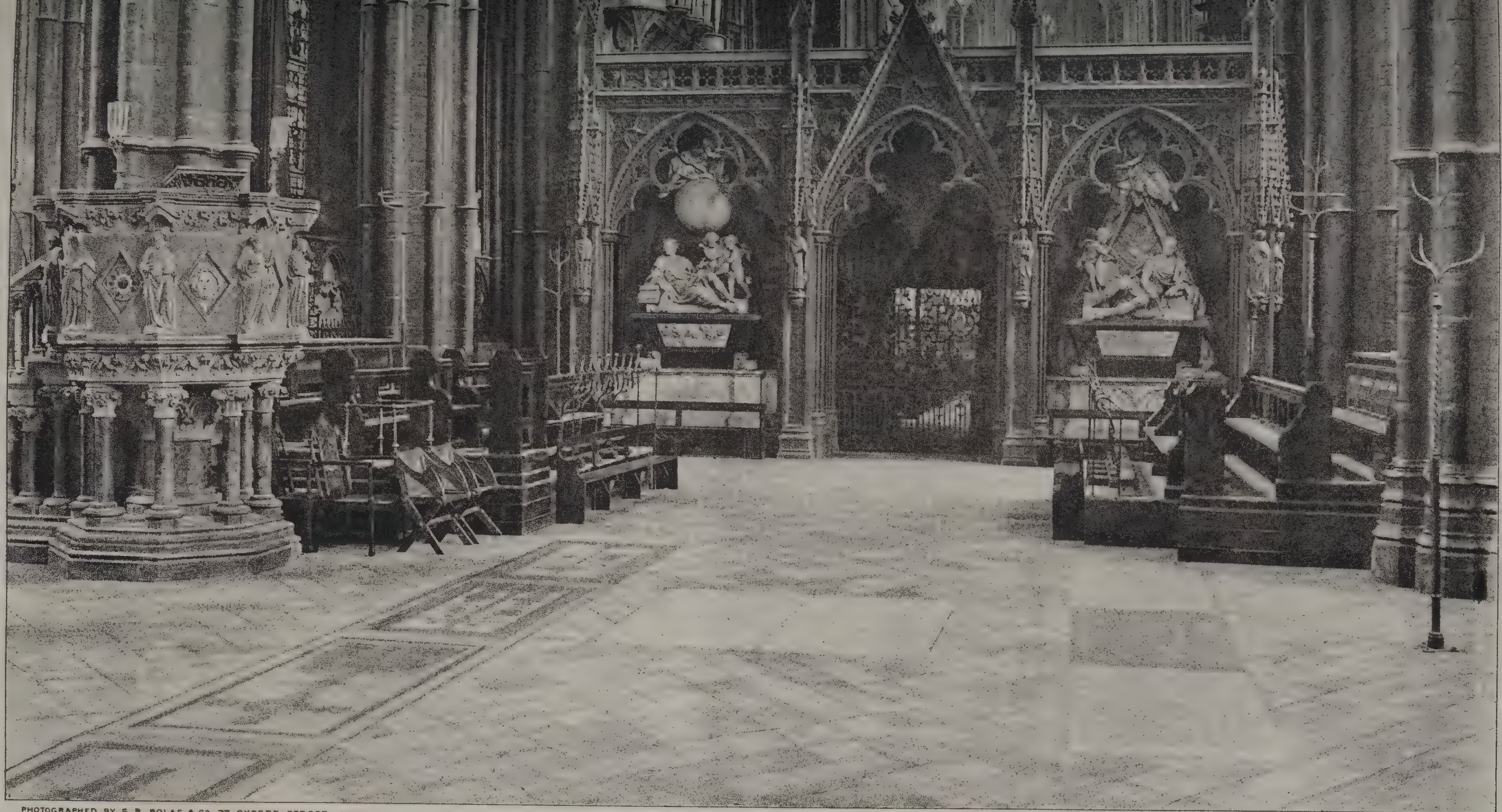
WESTMINSTER ABBEY, No. 18.
DETAIL, NORTH PORCH.

UNIVERSITY OF ILLINOIS

The Architect, Feb 16th 1900.





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WESTMINSTER ABBEY, No. 17.
INTERIOR, LOOKING EAST, SHOWING MODERN SCREEN.

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S^T. GABRIEL'S COLLEGE
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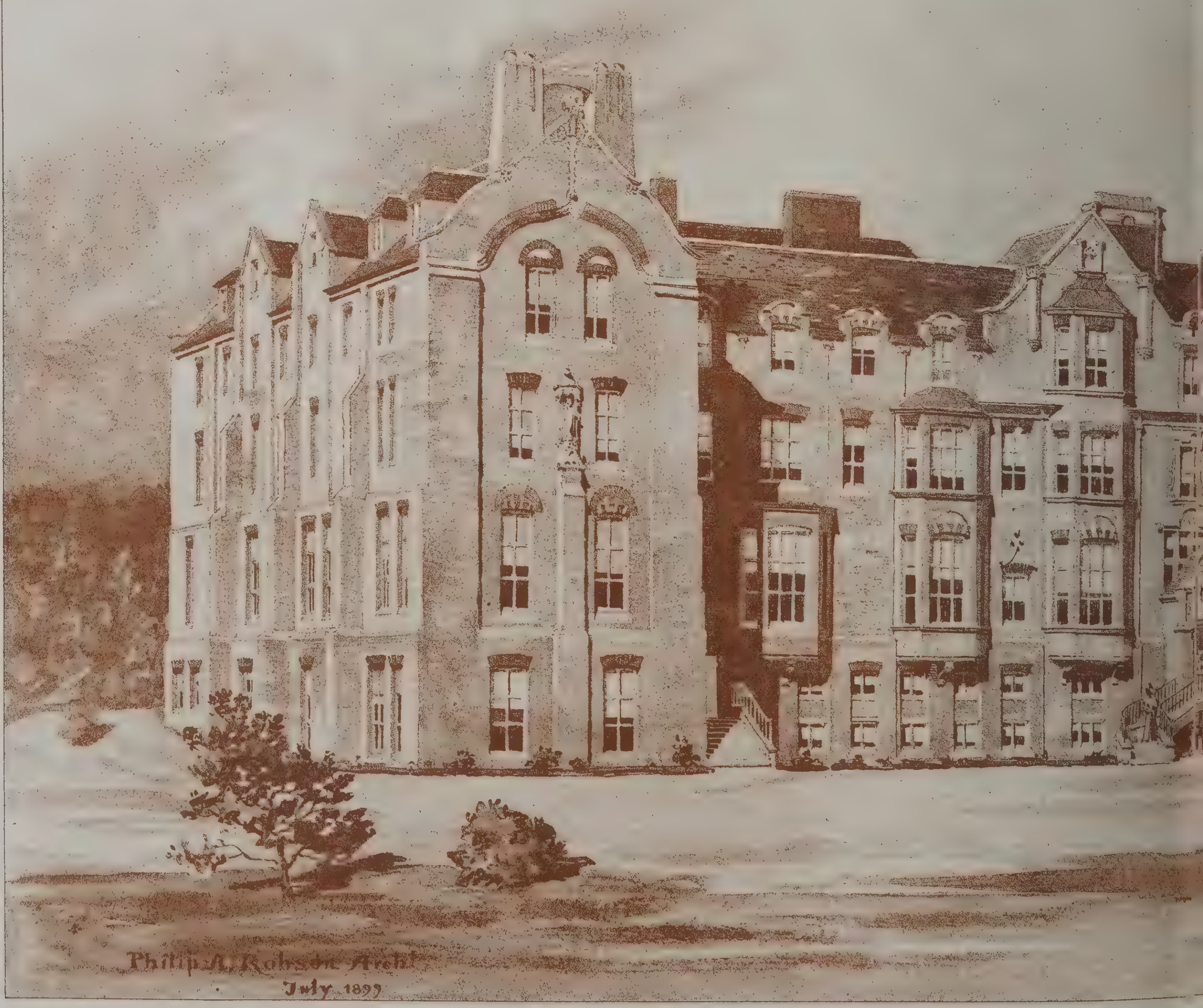
FROM SOUTH

Philip. A. Robson. A.R.I.B.A. Arc



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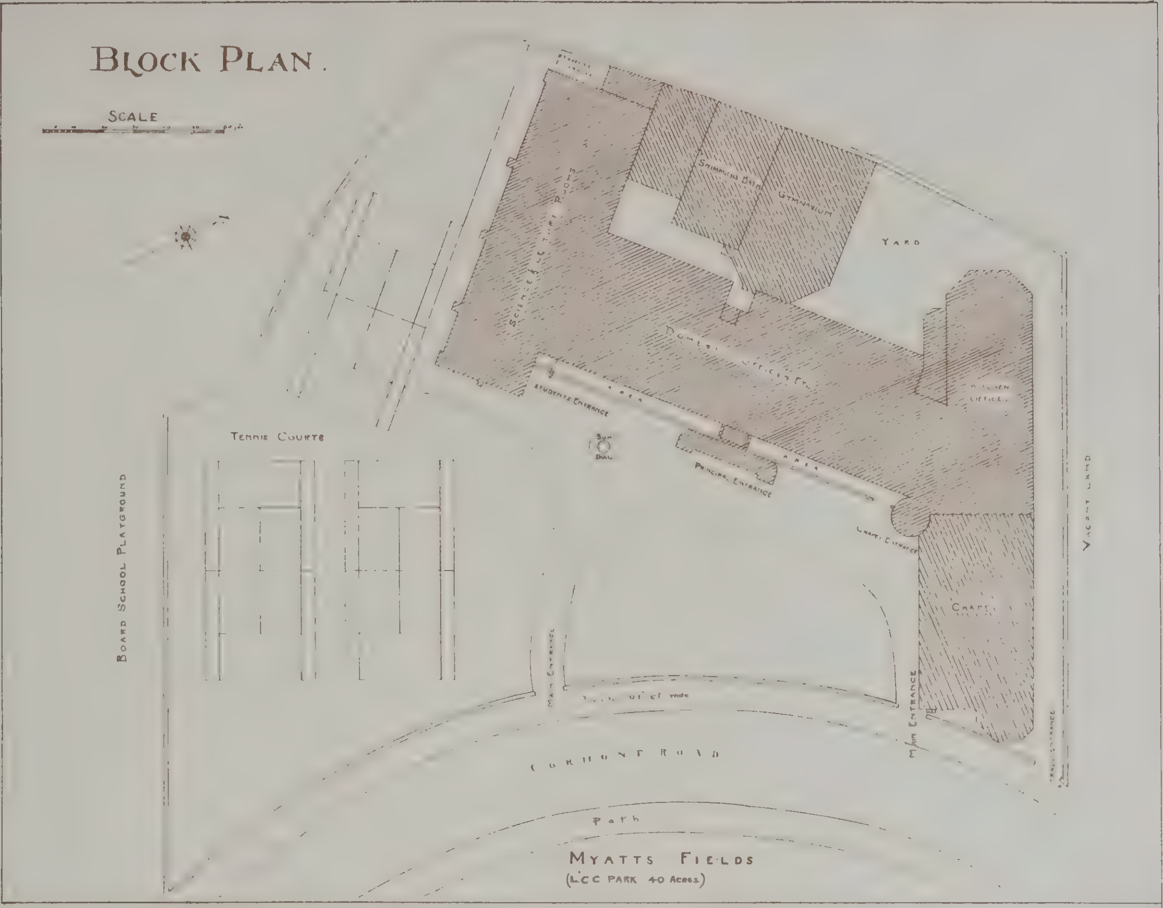

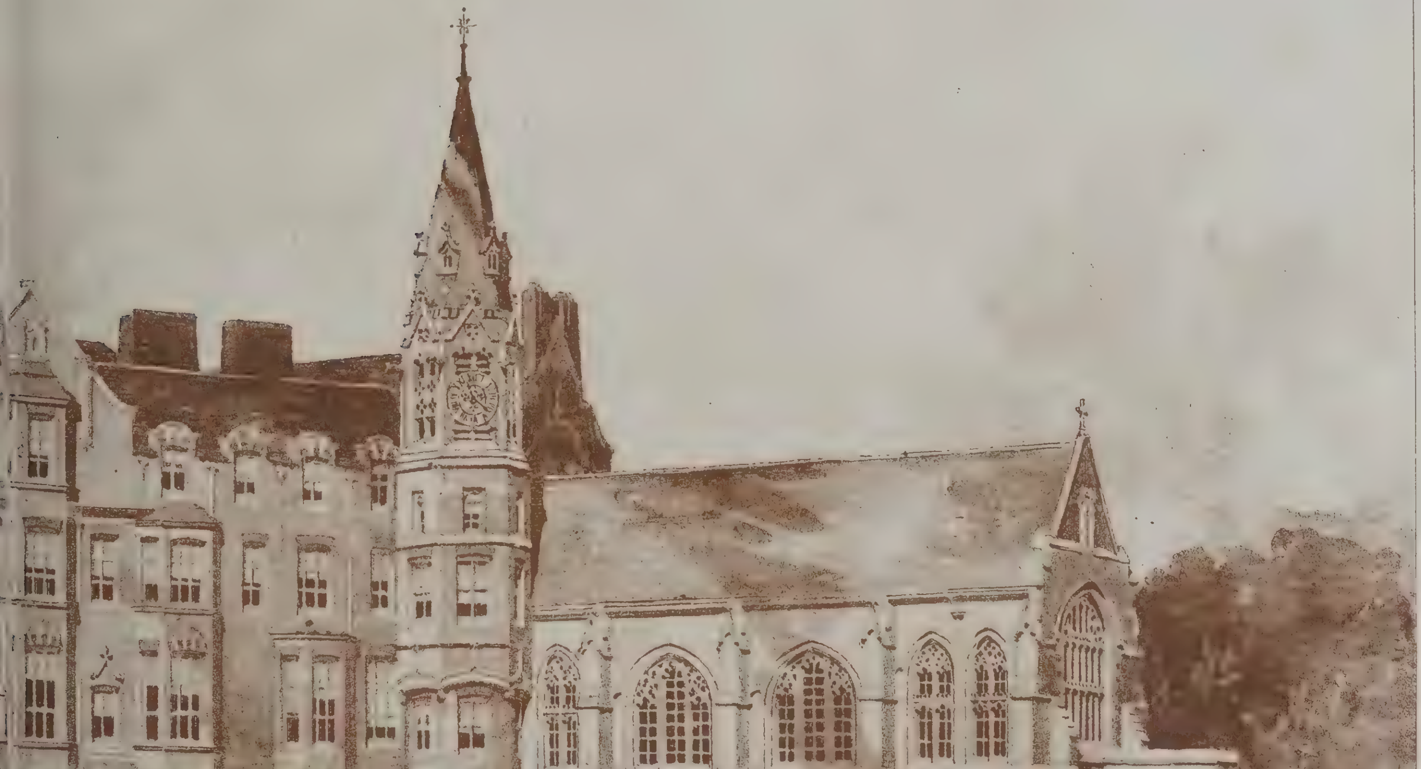

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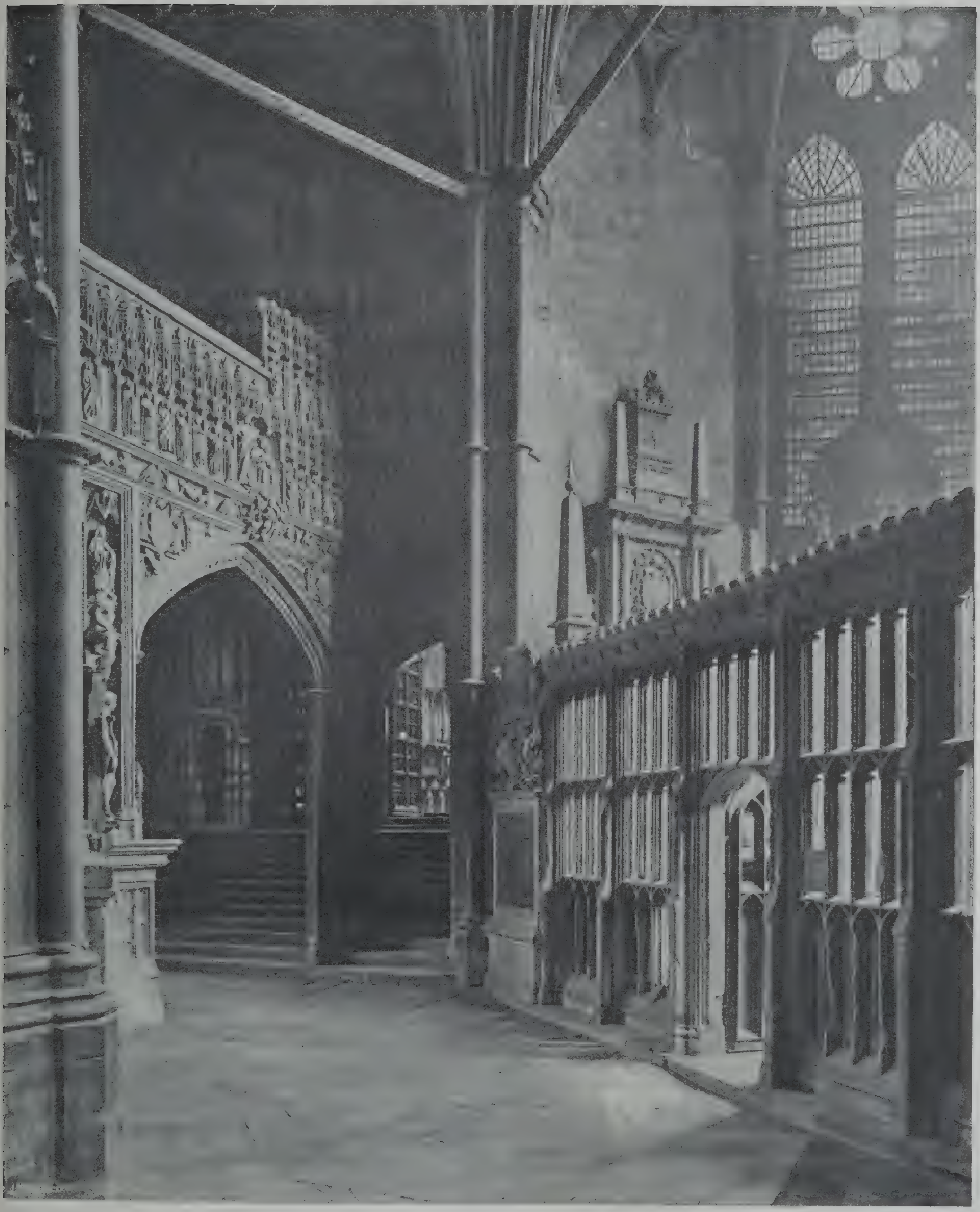

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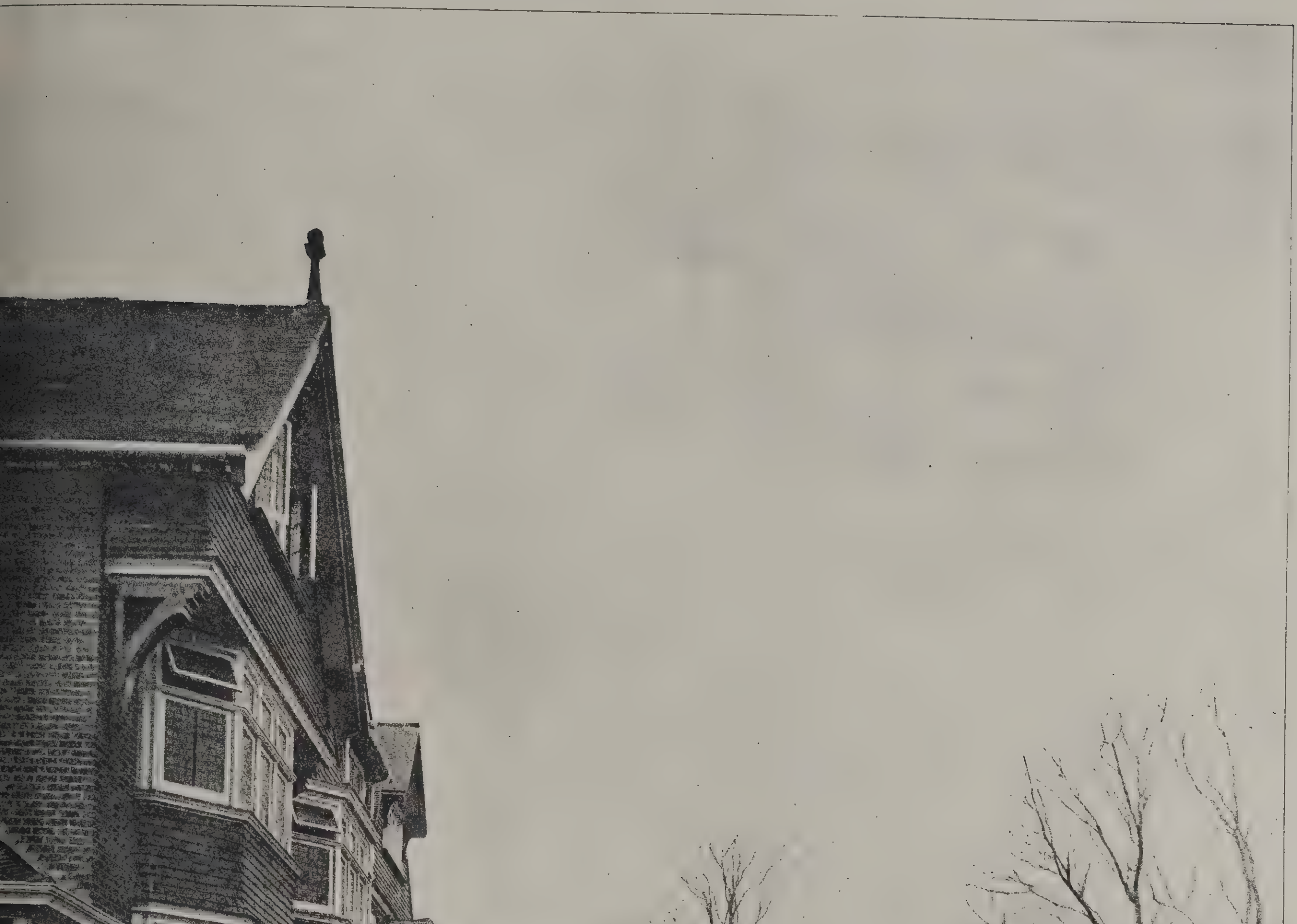
WESTMINSTER ABBEY, No. 19.
SOUTH AMBULATORY, LOOKING TOWARDS HENRY VII. CHAPEL.



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"SHILLINGFORD HILL," BERKSHIRE: THE RIVER FRONT.

GEORGE HORNBLOWER, F.R.I.B.A., Architect.

The Architect.

THE WEEK.

It is a step in the right direction when we find the improvements committee of the London County Council proposing that designs should be obtained to enable the Council to insure beauty and dignity for the new thoroughfare from the Strand to Holborn. As a rule a street is in official eyes only a series of building plots which the various purchasers or lessees can utilise as they please. The committee have recommended that eight "leading" architects should be invited to send in designs, four of the eight being nominated by the County Council and four by the Royal Institute of British Architects. Each architect is to receive 150*l.* for his designs, but the precaution is taken to recommend "that the invitations should be carefully worded, so that the Council should not come under any obligation to select any particular design or to employ any of the architects, and that the Council should have a perfect right to make what use it likes of the plans to be submitted." Now if we remember that the total cost of the improvement, or, in other words, the value of the property, is estimated to be 4,862,500*l.*, an expenditure of 1,200*l.* in order to discover the best way of laying it out is a much more satisfactory affair for the London County Council than for the leading architects of London. The fees to be paid for a scheme that, in addition to utility, should possess beauty and civic dignity, like some of the grand thoroughfares in certain continental cities, are at the rate of 6*d.* per cent. The Council will have the right to utilise the designs with as much liberty as if they were blank sheets of drawing-paper, and can therefore employ draughtsmen, or it may be officials of the works committee, to transform them as they please. As not a word is said about what will be prescribed to those who obtain the building sites, the Council will be able to insist on their transformed design being carried out, and no ulterior profit can in that case arise to the original designers. But if, on the other hand, it should be ordered hereafter that everyone who takes up a site must employ one or other of the eight architects, then the proposal is unfair, for it is giving a monopoly to a few men who will owe their positions mainly to the favour of the Council of the Institute or the County Council. While therefore we are glad to see that an opportunity arises for considering the effect of a street as a whole, the conditions under which architectural aid is sought are not of a kind to satisfy the majority of leading architects in the Metropolis. The proposal is one of those "penny-wise" efforts to gain reputation for economy which have made the Council notorious.

M. Bénard, the architect for the Californian University, has returned to France after his visit to the United States, where he was engaged in arranging the preliminaries for the great undertaking. In order to gratify the students in the Villa Médicis, Rome, where he once resided, M. Bénard sailed from New York to Naples. He then made the journey to Rome. He received an ovation from the students, who feel as if they could claim some share in the renown of an architect who succeeded in a competition in which all the principal architects of the world were supposed to have taken taken part. In reality the competition was more restricted, but if a larger number of architects had engaged in it M. Bénard might have been no less successful. His first duty on his return to Paris will be to prepare the *loges* for the competitors for the Prix de Rome in musical composition. The competition will be held in the Château de Compiègne, which is in the charge of M. Bénard as official architect.

The Local Government Board having appointed a committee to inquire into the causes of the high deathrate in Dublin, the evidence given is often startling. On Monday, for example, Mr. Maguire, who was formerly chairman of the health committee of the Corporation, said he did not think that any unprejudiced engineer who tested the houses in Dublin would pass more than half of them, and that conclusion referred to houses in the principal squares as well as in back streets. The system of inspection in Dublin was described as far less exacting than that adopted in London. The borough surveyor said he had taken down several hundreds of the tenement houses in the city, and the condition of some of them was too terrible to be described. As the indifference to sanitation is of ancient date in Dublin, it is almost impossible now to remedy the evil. There has been no main drainage, and some time must elapse before the works in progress are completed. The tidal river is not altogether an advantage, for it appears that on the north side of Dublin there are 700 acres, and 300 acres on the south side, with sewers which are tide-locked. The Corporation are endeavouring to improve matters, but the difficulty is, in so poor a city, to recoup the outlay. Building schemes especially are unprofitable. Neither baths nor workmen's dwellings can be carried on without large contributions every year from the rates.

On Friday last the French papers announced that M. Billoré, architect, of Amiens, had been entered on the roll of officers of the Academy, a distinction which Frenchmen prize. He won it by his services as "surveillant" of the works in the ecclesiastical buildings of that diocese. But he was not destined to wear the ribbon. On the same morning he was engaged in an examination of some of the operations which are in progress at the upper part of Amiens Cathedral. He had ascended to the exterior gallery, which is above the rose window, and was about to pass from it on a scaffolding leading to the part he desired to see, when somehow he unfortunately lost his balance and fell over the quatrefoiled balustrade to the parvis. As the height is over 130 feet, he was killed instantaneously, a martyr to duty whose memory should be respected.

The Founders' Company have again decided on a competition for designs and models in metal, wood, plaster or any suitable material for casting. It is open to founders, designers, craftsmen and apprentices engaged in the foundry business or allied trades within the City of London or the metropolitan area. The objects selected are a casting, a group, figure or head, a panel in ornamental figure, a bell, and a design which may be a drawing, model or pattern for any kind of cast metal work. If we can accept Stow as an authority, the founders' work in his time consisted of cast candlesticks, chafing-dishes, spice-mortars and such like copper or laton works. Three centuries have brought about many changes, and in our time there is scope for the founders' occupation with a far higher class of production. The Company now realise that fact, and great credit is due to the master, wardens, and court of assistants for their efforts to make English founders become at least equal to those who are found in France and Germany. If properly supported the Founders' Company should become the most artistic of all the London corporations.

The New South Wales Government are contemplating the erection of a bridge which will be one of the longest and highest in existence. It is intended to connect the northern and southern shores of Sydney Harbour. The competition is open to all the world. A prize of 1,000*l.* and another of 500*l.* are offered. The designs must provide for two footways each 10 feet wide, two roadways each 20 feet wide, or one roadway 40 feet wide, also for a width of 24 feet in the clear for a double line of railway. It is considered that the bridge should be a single-tier bridge, as the extra height to be surmounted by the railway or road, as the case may be, might be an objection, but designs showing either the footways or the roadway, or both, overhead, may be submitted, and will receive consideration. The bridge must consist of a single span, and a clear headway of 180 feet above high water for at least the middle 600 feet of its length must be provided. The structure must be designed to carry a live load of 130 lbs. per superficial foot of roadway and footpath, and every part of the roadway is to be capable of carrying a moving load of 30 tons on two pairs of wheels, and for a train on each line of railway consisting of three of the heaviest class of engine and tender in steam, followed by loaded trucks. The competitive designs will have to be delivered in Sydney not later than August 1, 1900.

ARCHITECTURAL COMPOSITION.*

THERE never was a time when architectural illustrations could be obtained so easily as they are now. Photography has enabled the poorest class of students to possess views of the finest buildings of all classes, ancient and modern. And yet it cannot be denied that in London and in the provincial towns buildings are to be seen which are not beautiful, and, indeed, can hardly claim to be considered as architectural works. They sometimes suggest that the modest cube continues the best model for English designers to follow, or that there is a national preference for a marked contrast between the exterior and interior of buildings. It is not necessary to go into all the causes which have produced such strange effects. The mass of the people seek for comfort, and are not much pained by adverse criticism about the shortcomings of their dwellings. Many so-called architects consequently are able to secure a great many commissions on the strength of a very small collection of "original" designs, which often may be based upon the drawings which they traced when they began their pupilage. For much of the modern domestic architecture it is evident good examples were never sought, for the designers do not appear to be able to draw inspiration from them.

One reason for this inability arises from the incompetence to analyse suitable examples, and to adapt what can be utilised in them. Features which are admirable in one composition may cease to be so when they are reproduced under different conditions. There is undoubtedly less mingling of styles in our time than was once common. But it is not entirely understood that with the same style throughout, a building may not be satisfactory to the eye. In the United States it does not appear that the condition of architecture is much better than in England. Mr. Russell Sturgis, who writes an introduction to the reprint of Mr. Beverly Robinson's articles on "Architectural Composition," takes a rather pessimistic view of what is being done around him. He tells us that, "Undertaken in haste, decided on in a scrambling meeting between ignorant committee-men and headlong architects, put through in one-fifth of the time which their design and construction require, in modern buildings the artistic problems connected with grouping, massing, subdivision, relation and proportion have but little weight."

As an aid to those who have to be rather precipitate in action when designing buildings the articles on composition were prepared. Mr. Robinson represents the genuine American spirit. He employs nearly three hundred views and diagrams, and the space which is left between them he utilises for explanations and investigations which become almost as succinct as engineering formulæ, in order that the headlong designer may be able to seize suggestions at a glance. The author starts with some just remarks about the influence of plan, saying :—

> Admirers of both the Gothic and the Classic modes will urge that the design must spring from the plan—that is, from the arrangement that utility or construction requires. They are both quite right: the design should spring from the plan, but it must spring from it, and not remain nothing but plan. Designs must be suggested by the plan, but if no design attaches itself to one way of satisfying the utilities, some other way of satisfying them must be devised which will suggest a scheme that pleases the eye. Nor would anyone ever have exalted the value of the mere utilities were it not that each starts with a certain type of artistic results, to which, it is assumed, all utilities must be made to conform. Thus, when the Gothic man talks of plan he has in mind as a type an unsymmetrical group of parts, apparently thrown together as nature throws the rocks of a mountain, yet really carefully arranged according to the skill of the designer. In the mind of the Classical man, on the other hand, there is an assumption of a different type, to which all of his utilities must adapt themselves. He wants something symmetrical, with horizontal lines predominating. Just as the Mediævalist cannot think of a house as a square mass, the Classicist cannot think of one all peaks and steeples. The truth is that men have not thought of design as a general method, applicable to all styles They fall in love with some special beauty of the past, justly, no doubt, but without anything like a fair appreciation of the possibilities of the case.

Mr. Robinson introduces some consideration of unity which should be a paramount quality in architecture as in all other forms of creation. He proposes to limit the word subdivision to horizontal subdivision, and grouping to vertical separation. He begins with the simplest forms, and the first building to which we are referred is the Château de Josselin, which in exterior appearance is comparable to a suburban terrace of cheap houses or a row of almshouses, but becomes a work of art by the variety as well as the beauty of the details. From the dormers being evenly distributed "there is a sense of continuity, almost of infinity." Then comes the question of grouping in general. Mr. Robinson becomes somewhat oracular when he says that after all only three manners of grouping can exist. His rules are "one thing looks well, two things look well together, three things look well together;" and he adds, "all the rest is but to learn ways of doing what these require when other considerations interfere of reconciling them with situation and use, and other modifications and adaptations." Of the first the Coliseum, the Parthenon, the Baptistery of Pisa and one of the Pyramids are examples; whereas the Pantheon is two things or parts, a Carnac Temple is three or four, while a modern country-house may have eight or ten parts. A German building in which the upper part of the façade becomes a gable of several storeys is taken as a single mass, because there are not other gables at the sides, no matter how often it may be divided horizontally. Some of the psychologists assert we can realise, or have cognisance of, five independent things at the same moment. Mr. Robinson reduces the number to three.

> Yet it will be said there are many groups of more than three objects. There is St. Mark's, with its five domes and with its four towers; and there are innumerable groups of four, five and more windows, pinnacles, arches, gables, pavilions. How can it be said that three is the largest possible number for a group? It is strictly true. Just as soon as we pass three we begin to lose the sense of a definite number bound together into a group, and to feel only the vague sense of an indefinite number of things placed upon another object. Four dormers or four windows, or as many more as we please, we may have, but as soon as we pass three we begin to lose sight of the dormers as objects themselves, and to think of the building as a whole decorated by a row of an indefinite number of dormers. And so used, multiplicity of subordinate parts is of value in giving continuity to a larger object, and is used in certain situations. But for plain masses that stand up, asserting themselves as independent objects, four is a combination that cannot be made to look well. It is almost impossible to find an actual instance of four grouped masses that affords a fair illustration. In most cases either the body of the building so much predominates that the four towers, or whatever they may be, fall into subordination as mere sub-masses, or a simultaneous view of all four is impossible, one or more being cut off by perspective.

Mr. Robinson maintains it was owing to the difficulty of seeing more than three objects simultaneously that in designing the upper part of Mediæval church towers one pinnacle was made larger than the others, in order not to impose too great a strain on the spectator. But it does not follow that three objects can always be uniform and beautiful. Lichfield Cathedral would, as is pointed out, be improved if the centre tower were larger. After comparing a great many buildings with the aid of illustrations three additional rules are introduced, viz. :—"In double grouping, whether of equal or unequal objects, the members must be alike. In triple grouping, either the members must be alike or the central must be the largest. A group of any number of members may be harmoniously constructed, by making one object very much the largest and letting the others fall into subordinate groups, but always by twos and threes, as if they were single." From the extreme brevity of Mr. Robinson's conclusions, his words, if considered by themselves, may not always appear conclusive without reflection; but when, as in the book, we see that what he says are inferences from existing buildings which are represented, the case is different. The last rule, for example, is exemplified by the Russian church of St. Basil, in which the designer seemed to be unrestrained in treating the parts above the roof, but yet was able to present a building with more unity than many Russian churches which are simpler in style. The chapter is followed by one on the grouping of subordinate parts, that winds up with a suggestion which is useful in the arranging of ventilators on roofs. For, says Mr. Robinson, "by making one much the largest, just as in the case of main masses, we may use various groupings as our fancy suggests, as well with these objects applied to the roof as with the bays, oriels and other subordinate masses that are naturally applied to the side."

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* *Principles of Architectural Composition:* an Attempt to Order and Phrase Ideas which have hitherto been only felt by the Instinctive Taste of Designers. By John Beverly Robinson. With an introduction by Russell Sturgis. New York: The Architectural Record Company.

Then comes the important distinction between the main mass of a building and the appendages. It is not always easy to say which is which, but Mr. Robinson would have a church tower considered as the mass and the nave and aisles as the appendage or appendages, according to the arrangement of them. In many cases there will be links between the parts, and the conclusion is drawn, which is supported by sketches, that with a central link an uneven or odd number of openings is desirable, but in side links an even number. The author then adds :—"It is one of the indications of the superiority of the æsthetic sense of the Greeks to our own, that their effortless perception of odd and even extended to so many more things than does ours. A Greek took as much care to put fourteen or sixteen or eighteen intercolumniations on the side of a building, in order to avoid a central opening, as we take to put the door in the middle of a room."

Mr. Robinson next treats of horizontal subdivision, in which he has something to say in defence of the practice in the lofty office buildings of America of putting solids over openings in the upper storeys. Then he enters on the important question of proportion, in which the use of diagonals, drawn at similar angles, as means of obtaining approximations of the relations between the parts is described. A chapter follows on the classification of buildings according to the dispositions of their parts, such as square top, round top and pointed. One of the most important features of the book, especially for students, is the number of diagrams by which it is explained how a building can be transformed in character without much alteration of the plan. Exercises of the kind will be found to form an excellent training, and so many illustrations of buildings are now available, the operations can be conducted inexpensively. Mr. Beverly Robinson's conclusions may not be always accepted, but he has devised a system which corresponds to some of the newly-invented gymnastic appliances, and which, if carefully employed, cannot fail to strengthen the mental powers of young architects.

GEORGE ELIOT, VASARI AND PIERO DI COSIMO.

(By a Correspondent.)

According to the old Greek proverb which Fathers of the Church accepted as wise, "Apollo does not keep his bow always bent." By a free interpretation, it might be said to affirm that an architect is not necessarily bound whenever he reads to limit himself to books connected with his everyday practice. But it sometimes happens that one cannot take up a novel without having compunctious visitings of conscience for the loss of time which should be given to graver duties. It is, however, possible to overcome the stings of remorse by an attempt to regard books of the class under a professional aspect. There are not many novels which are entirely devoted to artists, like Jean Paul's "Titan" or George Sand's "Mosaic Workers;" but English, French and German authors have occasionally introduced artists of various kinds among their characters. It is surely allowable for an architect to consider the representations, although in doing so he may have to read about a great many other things. It cannot be said that novel reading under such conditions is entirely remote from his ordinary duties. One of those characters to which novel readers in general may be indifferent is Piero di Cosimo, the painter, who appears in "Romola."

Although his remarks and his work are not without influence on the story, he can only be considered as one of the subsidiary characters. In a literary sense Piero may not be entirely a success. As Vasari made him the subject of one of his "Lives," and has written about him in an affectionate manner, he must be considered as historical. Accordingly, a novelist who utilises him has to work within limitations which are not entirely self-imposed. In works of imagination thought should be free, and it is not a very difficult task to invent a character who will have to make a few remarks about a man's appearance, to paint a portrait, and to receive a visit from the heroine. The Roman poet's rule should be made applicable in such cases, "a god should always be made to appear in a manner worthy of a god," and Piero di Cosimo was too remarkable a man to be kept in the background of an historical picture.

We must, of course, allow that in so tremendous a task as the presentation of life in Florence four centuries ago an author is to be excused for seizing hold of any reality that can be discovered. We suppose there never was another novel which required so much preparatory study for each chapter as "Romola." George Eliot has recorded the titles of some of the books it was necessary to study. One day she mentions her triumph that for 4*d.* she secured Savonarola's "Dialogus de Veritate Prophetica" and "Compendium Revelationum," and her special reading comprised histories relating to Florence, to religious orders, to Roman law in the Middle Ages, the revival of Greek learning, sacred and legendary art, Mediæval superstitions and, in fact, any book which even remotely related to Florence at that time. Indeed, it might be supposed that the spirit of the ancient citizen introduced in the proem was, in knowledge of Florentine ways, not a bad emblem of George Eliot herself. It is no wonder the writing was very slow and exhaustive, for erudition and imagination were throughout contesting for supremacy.

In Vasari the novelist found a vivid picture of Piero di Cosimo, and we suppose it was utilised because it allowed a respite from the efforts to create. All that was necessary was to follow the outlines of the biographer and to make the old painter act in a manner which, from what we are told about him, must have been inevitable. If Vasari is accepted there can be no question about what Piero would do in certain circumstances. The architect-painter has not only made the eccentric Piero prominent among the artists of the fifteenth and sixteenth centuries, but without his pen it is possible that Piero's existence would no longer be remembered, for it must be owned that his authentic pictures are not enough to immortalise him. Piero's father was Lorenzo, a goldsmith, a craft that supplied many artists during the Renaissance ; but he was a godson and pupil of Cosimo Rosselli, and we suppose he was glad when he was made to appear as a relative of his master. Never was he known, or at least in the world of art, as Piero di Lorenzo, but always as Piero di Cosimo. He was his master's trusted assistant, and helped him in his most important works. On Cosimo's death Piero followed his own crabbed will, and was entirely indifferent to the conventionalities of society. He lived in a remote part of Florence, and, as Vasari says, "more after the manner of a wild beast than that of a man ;" his rooms were never swept ; he had no appointed time for meals ; his garden was allowed to grow wild, for he preferred that all things around him should correspond with himself and be left in a state of nature.

George Eliot endeavours to improve upon Vasari's description of the atelier, for after describing the garden or thicket "in which fig-trees and vines grew in tangled trailing wildness among nettles and hemlocks, and a tall cypress lifted its dark head from a stifling mass of yellowish mulberry-leaves," she goes on to say:—"It seemed as if that dank luxuriance had begun to penetrate even within the walls of the wide and lofty room, for in one corner, amidst a confused heap of carved marble fragments and rusty armour, tufts of long grass and dark feathery fennel had made their way, and a large stone vase, tilted on one side, seemed to be pouring out the ivy that streamed around." During her visit to Florence George Eliot may have visited houses which were similarly neglected, and have seen rooms in which the vegetation of the garden had intruded; but it cannot be said the addition adds much to the effect. The desolation of Piero's atelier is more marked by the matter-of-fact statements of his biographer, but she is careful to note the sordid litter, the heaps of broken eggshells and ashes which were in the room. PIERO'S domestic arrangements were simple. He boiled a large number of eggs until they were hard, and then fed on them until the stock was exhausted.

VASARI says that PIERO used to seek for animals, plants or other productions which were uncommon, and took indescribable pleasure in them. GEORGE ELIOT, on the strength of that evidence, speaks of speckled or white pigeons in the atelier which were too tame to fly on the entrance of intruders, of corpulent toads crawling in a benevolent way, and of a white rabbit. Familiarity had made VASARI so indifferent to the properties of artists' ateliers, he does not mention any which were not of a bizarre kind; but GEORGE ELIOT, writing for the benefit of those who had not visited studios at any time, notes such articles as a carved ebony bedstead, "covered carelessly with a piece of rich Oriental carpet that looked as if it had served to cover the steps to a Madonna's throne, and a carved cassone or large chest with painted devices on its sides and lid," in addition to the robes of a Vallombrosian monk surmounted by a helmet with a barred vizor, brocade, skins, &c. It is evident that the English writer deliberately entered into a competition with VASARI, and on the whole her description may be considered as a praiseworthy effort.

M. TAINE argues, and with much reason, about the advantages which arose out of the Florentine masques and processions, for from seeing the pageants the numerous artists were able to obtain ideas of motion, costume, colour and the like which hardly could be inspired by ordinary life. Florence was rather a sober city, and we may be confident there were always people in it who, like BELLINCION BERTI, were belted "with leather and with bone," and

> Contented with their simple suits of buff,
> And with the spindle and the flax their dames.

PIERO was a great agent in the pageants. VASARI says he endeared himself to the young nobles by the improvements he introduced in the characters, and he was the first to impart to them the character of a triumphal procession. VASARI expresses his own delight as well as as that of his contemporaries when he says:—"To see at night, by the light of innumerable torches, twenty-five or thirty pairs of horses richly caparisoned, with their riders splendidly arrayed according to the subject represented, was without doubt an attractive and beautiful spectacle. Six or eight attendants, also on horseback, accompanied each cavalier, all clothed in the same livery and each bearing a torch in his hand; of these there were sometimes above 400; next followed the triumphal chariot, elaborately decorated with trophies and fanciful ornaments of various kinds, a thing which was not without its utility in sharpening the wits of the contrivers, while it gave infinite pleasure and delight to the people." There are several processions described in "Romola," but PIERO is not represented as the contriver of any of them, but simply as an onlooker who was glad "to lie in wait for the secrets of colour that were sometimes to be caught from the floating of banners and of the chance grouping of the multitude." He is made to say that the banners were far more interesting than the processionists, for there was an endless play of delicate light and shade on the velvet, satin and brocade, and he exclaims, "*Va!* your human talk and doings are a tame jest; the only passionate life is in form and colour."

VASARI mentions one occasion when PIERO devised a spectacle that was called the Triumph of Death, which caused a mingled sensation of terror and admiration. It hardly was a fitting part of a carnival, but its strangeness and novelty caused its inappositeness to be overlooked. It was afterwards supposed to be symbolical and intended to suggest that the MEDICIS, who were then in exile, would soon arise and overcome their enemies. GEORGE ELIOT utilises the procession as an incident which followed the betrothal of ROMOLA and TITO, and we are informed that a cold horror seized on the bride, "for at the first moment it seemed as if her brother's vision, which could never be effaced from her mind, was being half fulfilled." Another historical event which is employed is the burning by order of SAVONAROLA of representations of indecent subjects in pictures, sculptures and tapestry, and books of a like character. PIERO was present at it, and it is needless to say lamented the effort to burn colour out of life. There is, however, no authority in VASARI for the supposition that the painter saw the conflagration of vanities, but the probability is in favour of the novelist's assumption.

PIERO DI COSIMO, like the majority of the painters who were his contemporaries, attempted all the classes of painting which were then required. He painted scripture scenes for churches, portraits, landscapes, but there was so much variety in his works it cannot be said that he had any definite style. We may infer from what is said by VASARI that he was most successful with mythological scenes. When we remember how tame are the sea monsters which appear in the majority of representations of ANDROMEDA, it is to be regretted that we do not possess the creature which PIERO executed for FILIPPO STROZZI, than which, according to VASARI, a more singular and fanciful specimen could not easily be conceived. He had a partiality for figures of that class, for the biographer says that the dragon which was introduced by him in his picture of St. MARGARET was so extravagant, fantastic and terrible, nothing could be found in nature which was comparable to it. As well as can be judged, PIERO was not unlike LEONARDO DA VINCI in disposition. Ugliness had a singular fascination for both, as if each thought it was impossible to rival nature in beauty, and it was only in the horrible man could be a creator. But in other scenes he was also happy, and especially when he was able to introduce numerous amorini. TITO showed an appreciation of the qualities of the painter when he asked him to paint a *Bacchus and Ariadne* on a small scale and arranged as follows:—"The young BACCHUS must be seated in a ship, his head bound with clusters of grapes and a spear entwined with vine leaves in his hand; dark-berried ivy must wind about the masts and sails, the oars must be thyrsi, and flowers must wreathe themselves about the poop; leopards and tigers must be crouching before him, and dolphins must be sporting round."

A picture so arranged would be in keeping with the Renaissance spirit. But it may be doubted whether so handsome a young fellow as was TITO MELEMA would be considered as marked out by nature to do a shameful deed. On his first sight of the Greek, PIERO asks him to become a model for SINON in a picture of *Sinon deceiving Priam*, and when a remonstrance is raised the painter explains himself by saying that "a perfect traitor should have a face which vice can write no mark on; lips that will lie with a dimpled smile; eyes of such agate-like brightness and depth that no infamy can dull them; cheeks that will rise from a murder and not look haggard." With all respect for GEORGE ELIOT'S memory, we must maintain that she entirely misunderstood the belief of the age in which PIERO lived, if that is supposed to be the theory which then prevailed. Vicious people were made to exhibit more or less ugliness, for as pictures had to serve instead of books, it was necessary to remove all doubts about the character of the figures. It mattered little whether PRIAM appeared to be a fool for listening to a man with a villain's face; the aim of a fifteenth-century painter was to insure that no spectator of his picture could be deceived about the wily SINON'S character.

VASARI, on the whole, leaves the impression that PIERO was a Florentine TIMON. All his thoughts were concentrated on his art. GEORGE ELIOT could not suggest he was a model of benevolence. It is true he cuts the rope by which the old scholar BALDASSARRE was bound. But he was anxious to use the man as a model. He had seen the terror of the young Greek when his victim, the old BALDASSARRE, who looked "as if the plough and the harrow had gone over his heart," clutched him, and PIERO thought he had obtained materials for a very striking picture. He was not exacting about the price to be paid for the *Bacchus and Ariadne*, but he made it a condition that he was in return to have models for his *Œdipus* and *Antigone*.

The story of ROMOLA ends before the latter days of PIERO arrived. It was a melancholy time for him. There were no relatives or friends to aid him, and it was no longer possible to live day after day upon boiled eggs. PIERO'S fate was an anticipation of JAMES BARRY'S. Both were able artists, and eager to exalt art, and both met the fate which SWIFT dreaded—that of dying alone like a poisoned rat in a hole.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. W. Emerson, president, in the chair.

M. Charles Lucas read a paper in French entitled

Notes on the Palaces of the Paris Exhibition, 1900.

The Exhibition, he said, occupies an area of about 112 hectares (1,120,000 square metres), apportioned thus:—Champ de Mars, 50; Trocadéro 16; Esplanade des Invalides, 12; Champs-Elysées, 15; quays on the left bank of the Seine, 9 50; quays on the right bank, 9.50. In addition, in the Bois de Vincennes 110 hectares (1,100,000 square metres) have been provisionally taken for special exhibitions, various sports, houses for the working classes, &c. The superficial area covered in will not be less than 450,000 square metres—the French section occupying 250,000, the foreign section 170,000, and the Bois de Vincennes 32,000. The private buildings of the foreign sections along the left bank of the Seine cover a superficial area of about 50,000 square metres. Besides the buildings above indicated there are 100 French pavilions, numerous restaurants, kiosques, cafés and drinking bars, as well as seventy-five pavilions or foreign edifices beyond the official pavilions of the nations represented at the Exhibition, numbering thirty-six.

It is calculated that the total weight of iron and steel employed in the French official palaces alone amounts to 50,000 tons; and for the motive power and the electric lighting there has been provided a total force of 20,000 horse-power, which in case of need can be brought up to 40,000. The power of the cranes used is 425 tons. Some 5,000 workmen are daily employed on the works.

The selection of architects for the principal palaces was determined by public competitions. The twenty-three work-yards, under the general supervision of the Architectural Department, have at their head twenty-three architects, all premiated in the two competitions for the erection of the two permanent palaces in the Champs-Elysées. These architects, among them seven former students of the Academy of France at Rome, are surrounded by colleagues chosen by themselves among old fellow-workers in offices, the Ecole des Beaux-Arts or the *loges*—that is to say, among old pupils of the same masters who have shared in the same artistic struggles. Thus the buildings are a resultant, if not of the tendencies of the French school of architecture, at least of the methods of study of its students. Of all the buildings two only will remain permanently, viz. the two palaces in the Champs-Elysées, which are intended for fine-art exhibitions. The others will be demolished immediately after the close of the Exhibition in November.

Before reviewing the buildings M. Lucas called attention to the numerous collection of drawings, photographs, &c., ranged on the walls of the meeting-room, which had been brought together to illustrate his paper. These comprised large plans, showing the situation of the various buildings, and plans, sections, elevations, perspective views and photographs of most of the official buildings. The collection, partly composed of official documents not publicly obtainable and forming the most complete set possible to be procured, had been got together through the kind assiduity of M. Bouvard, who had desired M. Lucas to present the collection to the Institute in his name. They are to be supplemented by the whole of the studies for the great permanent palace on the Champs-Elysées, which M. Albert Thomas, the architect, himself proposes to present to the Institute.

M. Lucas then went on to describe the following buildings more or less in detail, taking them in the order in which the various illustrations representing them were catalogued:—

The Monumental Gateway on the Place de la Concorde (M. Binet, architect).

The Small Palace on the Champs-Elysées (M. W. Girault, architect).—This building, slightly modified since first designed, retains all the charm which captivated the jury and the public at the time of the competition, and won for its author the appointment of chief architect of the two palaces of the Champs-Elysées. In course of its erection M. Girault and the architects of the Great Palace agreed upon certain modifications for the sake of harmony between the Great and Small Palaces, which are intended to make a monumental whole, ornamenting the new Avenue des Palais, and forming, together with the Pont Alexandre III., the architectural legacy of the Exhibition of 1900.

The Great Palace in three sections—(1) the anterior section on the Avenue des Palais, M. Deglane, architect; (2) the central section, M. Louvet, architect; (3) the posterior section, M. Albert Thomas, architect.—This is the most important of the permanent structures. Each section, especially the front and rear, combines in itself a complete edifice. The three architects, each making a sacrifice of some of his artistic ideas, have contrived a completely harmonious whole in which stand out portions of great beauty and personal feeling. The central section has two fronts, of which the northern, fronting the Avenue des Champs-Elysées, is raised upon a podium. One of the most remarkable motives, not only of the Great Palace, but of the whole of the Exhibition buildings, is the grand staircase—a real staircase of honour for the most stately ceremonials—leading from the ground floor to the concert-hall and galleries on the first storey. The conscientious study in metal, and particularly of the iron gutters, is strikingly noteworthy from the point of view both of construction and decoration, combining as it does boldness and elegance. The rear section of the Great Palace forms a complete and fascinating whole, with its great central hall, crowned by an elliptic dome, with its straight staircase, its galleries and its saloons. Behind the Ionic order which decorates the main front runs a high enamelled frieze, the work of the national manufactory of Sèvres, whose varied tones will be lit up by the setting sun.

The Pont Alexandre III. (MM. Cassien-Bernard and G. Cousin, architects).—In the course of his remarks on this bridge, M. Lucas said that it would always remain an irrefutable witness of the necessity of the alliance between architects and engineers in works of public utility. Referring to the rich Ionic order and the sculpture which decorated the two palaces and the bridge, the only artistic monuments which would survive the Exhibition, the author said that they recalled the luxury displayed by Louis XIV. in his royal residences, and occurring as they did under a Republican Government, in such an eminently popular manifestation as a universal exhibition, they were significant to show that art was an essential need of France whatever the institutions in force at the time.

Coming to the temporary buildings the author went over the various plans and original working drawings illustrating each building, and gave a brief commentary upon each. These temporary structures are as follows:—

The Pavilion of the Town of Paris (M. Gravigny, architect).

The Palace of Horticulture (M. C. A. Gautier, architect).

The Palace of Social Economics and Congresses (M. Mewès, architect).—In this palace rooms are specially arranged for the International Congresses, two of which—the Congress of Architects (July 29 to August 4) and the Congress of Public Art (August 6 to 11)—the author said, seemed to invite the presence of English architects

The Théâtre des Bonshommes Guillaume and the *Aquarium* (MM. Henri and Albert Guillaume).

Old Paris (restoration by M. Robida).—This is a complete Mediæval town, covering a spacious area, built on piles and containing gates and commune house, turrets, *bretèches* and famous houses, old markets and theatre, grand hall of the palace and chapels, well and pillory, stalls, shops, taverns, &c,

Pavilion of the Egyptian Section (MM. Boulad and Dourgnon).—This is composed of three blocks: (1) a temple of ancient Egypt; (2) an Arabian bazaar; (3) a theatre with façade of ancient Egyptian style.

Palace of the Algerian Section (M. Albert Ballu, architect).—This reproduces the minaret of the mosque of the Sultan Bashaw at Oran; the cupola of the mosque of La Pêcherie at Algiers; the Moorish court of the old museum of Algiers, &c.

Palaces of Navigation, Commerce, Woods and Forests (MM. Tronchet and Rey, architects).

Palace of Education, Teaching, Instruments and General Processes of Letters, Science and Arts (M. Sortais, architect).

Palace of Civil Engineering and Means of Transport (M. Jacques Hermant, architect).

The Château d'Eau and Palace of Materials and General Processes of Mechanical and Chemical Industries, &c. (M. Paulin, architect).—This, crowned by the crest of the palace of electricity, promises to be, in combination with the latter, one of the great attractions of the Exhibition. In the evening strings of electric lights will illuminate the main architectural lines and the cartouche, and the various water effects, cascades and jets will be rendered luminous and coloured with every hue.

Palace of Electricity (M. Eug. Hénard, architect).—In this palace, surrounded on all sides and partly masked by the Château d'Eau, the architect has concentrated his whole decorative effort in the upper part of the central hall, which is in the form of a trilobate vault containing the great niche of the Château d'Eau. The building is surmounted with a broad open-work crest; during the day it will give the impression of metal lacework standing out against the sky, and during the night the appearance of lacework of flame.

Other palaces described were the Salle des Fêtes (M. Raulin, architect), adapted from the Machinery Gallery of the Exhibition of 1889, and to remain permanently as a hall for the award of prizes; Palace of Woven Fabrics (M. Blavette, architect); Palace of Mines and Metallurgy (M. Varcollier, architect); Palace of Belgium (MM. Acker and Maukels); Palace of National Manufactures (MM. Toudoire and Pradelle); Palace of Decoration and Furniture (M. Esquié, architect); Palace of Various Industries (MM. Larche and Nachon, architects);

Palace of Ceramics, Crystals and Glasswork (M. Tropey-Bailly, architect).

In his closing observations M. Lucas said that throughout all the conscientious work, in the heart of which is paramount the influence of the school in which the architects and their collaborators had been trained, there is observable, especially in the richness of the decoration and the exuberance of the sculpture, a certain exoticism, a reflection, as it were, of architectural styles that have come ready moulded from the furthest East, giving rise to thoughts of Colonial France and its art.

Touching the remuneration received by the architects of the Exhibition, M. Lucas quoted from a report of the Minister of Commerce to the President of the Republic:—"The remuneration was fixed and comparatively small. The chiefs of offices, men of tried skill and assured reputations, would easily find higher remuneration in private work. The more meritorious is the zeal with which they devoted themselves to the service of the State."

Mr. Penrose proposed the vote of thanks, and in the course of his remarks said that M. Lucas was a model for all correspondents of the Institute. Mr. Statham seconded the vote, and said that he respected M. Lucas as an acquaintance of his own and as a friend to the Institute. He wished to thank him for his elaborate survey of the Exhibition, and although our tastes differ, yet we can feel perhaps that the French may be as right as we are.

The President, speaking in French, remarked that the lecture was both interesting and instructive, and that the drawings were magnificent. He heartily thanked M. Bouvard, the director of the architectural works, together with the other architects, for presenting them to the Institute. In conclusion he announced that on March 5 some recommendations of the Council regarding by-laws 25, 29 and 30 would be considered, and that a Congress would be held between June 18 and June 23.

JOHN RUSKIN'S ART TREASURES.

JOHN RUSKIN has passed to his long, well-earned rest, says a special correspondent of the *Glasgow Herald*, his remains have been buried, not with pomp and circumstance in our national Valhalla at Westminster, but simply and quietly in the lake country, whose glorious sunsets have been one of the greatest joys of his last years. In the early spring of 1878 he wrote thus of the elusive beauties of his home surroundings, which yet did not serve to stifle sorrow for well-loved ones who had gone beyond range of his ken:—"Morning breaks . . . along those Coniston Fells, and the level mists, motionless and gray beneath the rose of the moorlands, veil the lower woods, and the sleeping village, and the long lawns by the lake shore. Oh, that some one had told me, in my youth, when all my heart seemed to be set on these colours and clouds, that appear for a little while and then vanish away, how little my love of them would serve me, when the silence of lawn and wood in the dews of morning should be completed; and all my thoughts should be of those whom, by neither, I was to meet more." Yet, as I know from one who visited him at Brantwood, it solaced him to sit for hours gazing out of his window, ever discerning some new beauty in drift of cloud, on mist-hung hill, or when the sun slowly sunk in the west. And now, while yet the keen sense of his loss is upon us, conjecture is busy as to what is to become of his art collection. In the majority of cases, when definite instructions are lacking to the contrary, such possessions are dispersed. In Mr. Ruskin's case this would be the signal for the expression of widespread regret, and for many reasons. His collections were to an almost unparalleled degree a part of himself; he lived with them, they were to him a constant source of delight, and no small portion of his writings are based upon them. His books all can buy, and so considerable therein are the number and importance of allusions to works in his own possession that it would be a sorrowful thing should these now have to pass into various hands It may be, happily, that some arrangement may be made whereby the public is allowed access to the Brantwood collections, at any rate during certain parts of the year or upon certain days. An announcement of this kind would be hailed with the utmost satisfaction.

To speak of John Ruskin's art treasures is to think of Turner. The drawings at Brantwood by this master are not so numerous as they once were, owing in large part to the generosity with which Ruskin handed over some of them to Cambridge and Oxford; a water-colour view of the junction of the Greta and Tees, for instance, one of the very best of the Yorkshire series; "Ashestiel," another water-colour; perhaps the finest rendering in this medium of "Richmond, Yorks," now in the Fitzwilliam Museum; several Venetian pieces and others. Still, the thirty or so Turner water-colours at Brantwood, each one chosen with a view to some particular beauty or characteristic, constitute one of the finest collections of this kind owned by an individual. Of works in oil, if I mistake not, there are none from this hand. "The Slaver," given to Ruskin by his father about the time of his majority, was sold for a considerable sum to an American, who rapidly recouped the outlay by exhibiting the work. Its fine sky ranked as one of Turner's highest achievements in Ruskin's esteem, and those who remember it will recall the masterly way in which the sunset hues are blent with the blood of the slaves who have been thrown overboard and caught by sharks The Turner collection, which some value at about 30,000*l*., is remarkable, not so much for its extent as for its genuinely representative character. There we may follow the development of the artist from 1792, when as a lad of seventeen he painted his own portrait, through his various significant phases, onward to the early forties when he executed some of the most wonderful of his drawings. Twenty-two years ago, it will be recalled, Mr. Ruskin exhibited his Turners in Bond Street. The epilogue to his instructive notes in the catalogue is dated Brantwood, May 10, 1878, and afterwards come these words:—"Being my father's birthday, —— who —— though, as aforesaid, he sometimes would not give me this, or that, —— yet gave me, not only all these drawings, but Brantwood —— and all else." The tribute is simple and beautiful.

It will be of interest at this moment to give a few particulars of these Turner drawings, of the nature of the special appeal which some of them possessed for Mr. Ruskin, and of the way they served as object lessons in his books. The artist is known scarcely at all as a portraitist, hence the study of himself in almost full face with long curling hair made in his school days is particularly instructive. He gave it to Mrs. Danby, his housekeeper, who bequeathed it to Ruskin. "It is to me, who knew him in his age," he writes, "entirely the germ and virtually capable contents of the man I knew." One of the next in date is the "Bonneville," a quiet, stupendous study recording probably Turner's first impression as he drew near the great Alps, the Alps that always wrought him to sadness, as did Venice to delight. There is "The Aiguillette" of about 1810, which to Ruskin's thinking was unique in this period for its "grave purity and majestic delicacy," the group of sheep introduced with great certitude into the foreground and made to repeat the gray cloud-effects above; the "Italy of the Olden Times," whose human life in its peace and its homes can no more be seen, said the owner; "Turin, from the church of the Superga," really from the portico flanked by great pillars, shows the city lying below against a background of mountain; "Florence from Fiesoli," notable, again to quote Ruskin, for the tenderness of its distant undulating hills, carried out with subtlety of tint and perfection of form quite undreamt of before Turner saw it; "The Bridge of Narni," than which "a more lovely study of water-surface does not exist;" and "The Falls of Terni" all belong to what the critic called the dreamland-Italy period, circa 1818. This last-named drawing was valued by Ruskin as the most perfect rendering of waterfall he knew, "beyond all other conquest of difficulty supreme." Again, the most accomplished gem engraver shows no finer work, we are told, than the little view, 8½ by 5½, of Rome from the Monte Mario, every principal building from this point of view represented, and this is among the works that "will in future be held precious among European treasures of art, not only because they are the subtlest pieces of point-work executed since the best days of the Florentines, but the most accurate pieces of topography extant, either among architects or engineers, of the central city of the world." To this group, too, belongs the lovely Lake Nemi, "consummate in all ways." I am uncertain whether "Vesuvius Angry" is now in the Brantwood collection. It was an engraving after this drawing, published in "Friendship's Offering," which introduced Turner's work to Ruskin, then a mere boy, delighting, as he tells us, in Miss Edgeworth's "The Little Merchants." Even thus early, however, he "used to feast on that engraving every evening for months, and return to it again and again for years, before I knew anything either about drawing, or Turner, or (he characteristically adds) myself."

In following the late owner's own classification, we next come to the fourth group, "Reality, England at Rest" The Brantwood examples include the view of Heysham from the hill above with the Cumberland mountains in the distance, showing the master's "first perfect grasp of English scenery," in whose sky alone, Ruskin held, there was more design and more work "than would make a dozen of common water-colour drawings;" and, again, a "Richmond, Yorks," whose right bottom corner is reproduced as "By the Wayside" in "Modern Painters" to illustrate the English artist's power of painting foliage and thicket, alike definitely and with a suggestion of mystery, as opposed to the mechanism of the Dutch, the conventional severity of the Italian. The fifth group was entitled by Ruskin "England Disquieted," and of these allusion may be made to the rapidly executed "Dudley Castle"—"I have no doubt that at least twice the time given to this whole drawing of Dudley was spent on the sky of Heysham alone," is the critic's remark; "Richmond Bridge, Surrey," the first drawing by Turner that Ruskin ever possessed, it having been bought for him by his father, "thinking I should not ask for another, we both then agreeing that it had nearly everything characteristic of Turner in it, and more especially the gay figures." Nor was he ever weary of trying to analyse it, but, he significantly says, "after thirty years' endeavour I finally surrender that hope—with all similar hopes of ever analysing true inventive or creative work." This sentence should be graved on stone as a warning to those who think that qualities not easily measured are therefore no qualities at all. "On the March, Winchelsea"—a view of troops winding up the hillside, on which falls a thunderous light—was given to Ruskin by his father on his twenty-first birthday, and for long hung in his rooms at Oxford. This is his remark about it:—"No mortal would believe, and now I can scarcely understand myself, the quantity of pleasure it gave me. At that time I loved storm, and dark weather, and soldiers. Now I want blue sky, pure air and peace." What magic use of simple words he had. Still belonging to this fifth group are the "Devonport," with the figures exaggeratedly vulgarised—with intent, according to Ruskin—and the "Gosport," the second drawing possessed by Ruskin, where boats are swiftly sailing and clouds flying apace.

The sixth group, "England Passing Away," it is aptly entitled by Ruskin, gives him the opportunity for a telling piece of satire. It includes the exquisite Salisbury, the Caernarvon Castle wrapt in twilight mist, the castles of Flint and of Okehampton, the abbeys of Leicester and Bolton. Each was acquired as a beautiful work of Turner, not because of Ruskin's love of architecture. "Everyone of the seven was composed," he says, "to do honour to some of those buildings of which it is England's present boast that she needs them no more. And, instead of cathedrals, castles or abbeys, the hotel, the restaurant, the station and the manufactory must, in days to come, be the objects of her artists' worship. . . . But the future England and Wales will never be painted by a Turner." In connection with the "Bolton Abbey," painted about 1835, it is to be noted that the finely-rendered rocks to the right were etched by Ruskin himself, and afterwards engraved by his friend, Thoman Lupton, for "Modern Painters," under the title, if I mistake not, of "Shores of Wharfe."

None of the series of drawings illustrative of Scott are now, I think, at Brantwood; and of the eighth group, "By the River Sides," there is but a single example, but this is an important one—"Rouen." Executed for the rivers of France series, Ruskin wrote:—"It is beyond all wonder for ease, minuteness and harmony of power; perfectly true and like the place; also, inestimable as a type of Turner's consummate work. If any foreign master of landscape painting, hitherto unacquainted with Turner, wishes to know his essential strength, let him study this single drawing, and try to do anything like it." And, indeed, the praise is no whit too great.

Of the works at Brantwood, perhaps those belonging to the tenth group, "Sunset," were most largely drawn upon by the owner as object-lessons in his art teaching. They belong to the early forties, and several of them were bought direct from the artist, or at least through Mr. Griffith, of Norwood, on whose garden lawn Ruskin was introduced to Turner. Did space permit, there is much of extreme interest that might be said of these drawings. The "Coblentz," with the fort of Ehrenbreitstein in the distance on the left, is closely analysed in "Elements of Drawing," parts of it being reproduced in order to illustrate the law of curvature. "There is nothing in painters' work of any kind more exquisite," is the late owner's enthusiastic pronouncement on it. "Constance," the "Lake of Zug" at early morning, Goldau, with its incomparably fine distance—these are other of the important drawings of this period in the collection. Finally, a word as to not the least marvellous of these creations, the Pass of St. Gothard, painted in 1843 or thereabouts. To the right we see the coach moving in leisurely fashion along the hillside, behind the mountains, drawn as no one else has drawn them, to the left the expanse of jagged rock that serve as an illustration of "Rocks in Unrest" for "Modern Painters." In a masterly analysis by Ruskin, the drawing is instanced for its "Turnerian topography," and part of it was etched by him for plate 21 in "Modern Painters."

Of course there are many other art treasures at Brantwood beyond the Turners—several drawings by Rossetti and Burne-Jones, a work by Titian, fruit studies by William Hunt, and examples by Brett, A. W. Hunt, J. F. Lewis and others. In his own bedroom he had arranged some works, including a few William Hunts, into a scheme of colour, which he would explain when in a mood to sympathetic visitors. There is no actual picture gallery at Brantwood, this in part because Ruskin delighted to live surrounded by the things of beauty that he had brought together, not merely to visit them of set purpose and perhaps irregularly. Among many other things that he possessed was a series of diamonds in the rough, graduated in size from small to large. Their shafts of varied colour were a supreme delight to him. These stray notes may serve to make more widely known the character of the late critic's collection, the heed which he paid, the pleasure he derived from each minute detail of each small drawing and object. To whomsoever they may belong hereafter, it is to be hoped that the public will not be denied occasional access to them.

DEVELOPMENT OF ARCHÆOLOGY.

A LECTURE was delivered before the Royal Dublin Society by Rev. J. P. Mahaffy, D.D., on "The Development of Archæology in the Nineteenth Century."

The lecturer said that the archæologists of the eighteenth century had come to be regarded, if not as destructive barbarians, at least as mischievous amateurs, who destroyed the most precious vestiges of ancient history. They were mostly patrons of art—men who professed so to admire Classic art that they loved to transfer the most noble specimens to their gardens and galleries. Workmen were employed by those archæologists to dig into the earth in likely places for statues and other remains of ancient art, and these were often taken up out of the ground in a mutilated condition, but that made no matter if they had clever workmen who could restore a broken nose or an arm where required. The archæologists of the nineteenth century had made up their minds that it was better to leave such art treasures as they were found rather than endeavour to improve them by any modern work. A recent French writer had characterised our private galleries and museums as "the tombs of ancient art," and so they truly were. Great quantities of beautiful work of early art had been carried off into the museums and private galleries throughout Europe, and so we had lost by that the benefit and instruction which might be gained if those things were shown in their proper places. The Venus of Milo was one example of the practice to which he referred, and owing to the way it was treated they were only in recent years able to discover the age to which it belonged. The climax of the archæology he had been describing dipped into the early years of the nineteenth century by reason of the action of Lord Elgin, who took down the magnificent western pediment and a good part of the frieze of the Parthenon at Athens and brought them to the British Museum. Lord Elgin thought he was helping the cause of archæology, and considered himself a patron of art, but the name by which these works of art were now known—the Elgin Marbles—had for all time pilloried him, even as Pontius Pilate was pilloried in all Christian churches. The establishment of the Dilettanti Society was the first sign of an improvement in this melancholy state of things. It consisted of a group of seven or eight or ten men, and they were the first, as far as he knew, to take a scientific view of archæology. They sent out at least two first-rate architects, who by their efforts gave us a knowledge of Greek architecture we never possessed before. By the science of archæology he meant the study and right understanding of the remains of antiquity. The real Greeks were as different from the ideal to be seen in the statues as the real William III. was from that magnificent personage, bareheaded and barefooted, whom they saw sitting on that very remarkable horse in College Green. If that statue was taken to represent the real King William, how far astray they should be. Limelight views of Greek and other art having been shown, the lecturer went on to point out the various characteristics of, and optical delusions produced by, the ancient styles of architecture, and said that the revolution caused by archæology, in their knowledge of the Greek theatre especially, was so great that it would require a separate lecture. They saw that great work was done in the "silver age" as well as in the "golden age." Now, while they had been talking of the gains of archæology, it was not right that they should forget its losses. The victorious advance of an army was not without its reverses. In modern war these losses were chronicled with exaggeration, whereas in modern science they only talked of their successes. In no science had the successes been more glorified than in archæology, yet they had been accompanied by severe losses—losses in our sense of beauty and sense of reverence for the sublime productions of the past.

The Clock Tower which has been erected at Lewisham in commemoration of the Diamond Jubilee of the Queen was opened on the 17th inst. The structure, which is 45 feet in height, is of the best Portland stone in the Renaissance style, the top being relieved by the Imperial crown wrought in gilt. There are four faces to the clock, which is illuminated, the width across the dial being 3 feet 6 inches. The plinth is embellished with the letters in gilt, "V. R. and I," and the motto "Dieu et mon Droit," while beneath is the following inscription, in black letters relieved with gold:—"This clock tower was erected to commemorate the Diamond Jubilee of the reign of Her Most Gracious Majesty, Queen Victoria, 1837–1897." The architect is Mr. A. R. Gough.

NOTES AND COMMENTS.

About a year ago the Lyceum Theatre of Eccles, near Manchester, was in course of construction by Messrs. Moore & Sons. The decorative work was a separate contract, and was in the hands of A. R. Dean, Limited, of Birmingham. One of the painters who was engaged on the ceiling fell from the scaffolding to the pit, owing to the failure of one of the planks, and was killed. The widow claimed compensation from her husband's employers, who denied liability on the ground that painting did not come within the scope of the Workmen's Compensation Act, and also because the scaffolding had been erected by Messrs. Moore & Sons, who became responsible. The case was brought into the County Court, and the judge appointed an arbitrator to hear it. The applicant claimed that A. R. Dean were "undertakers" in the sense of section 7, and on the other side the contention was that the work undertaken was not construction within the meaning of the Act. The arbitrator decided that the painters were undertakers, and he awarded the widow 300*l.* damages with costs. The County Court judge, however, set aside the award on the ground that the painting of the ceiling of the theatre was not an employment within the Act. The case was carried to the Court of Appeal. Lord Justice Smith said there was no doubt deceased was employed on a building within the Act, and that whoever undertook the construction of a substantial part of such a building was an undertaker. The applicant was therefore declared to be entitled to the sum which the arbitrator had awarded. Lord Justice Collins, in agreeing, said it seemed to him to be immaterial what kind of work a workman was engaged on at the time he met with an accident. Lord Justice Romer also agreed, and, according to him, when several persons were engaged in carrying out separate parts of a building each and all of them became "undertakers," but that undertaker alone was liable to pay compensation who was employing the workman when the accident occurred. The decision will not be satisfactory to sub-contractors, and it will increase the liability of many who hitherto were held to be exempted from the operations of the Act, but it will have the advantage of simplifying interpretations, and will help to prevent needless litigation.

It is believed that arrangements are concluded to form a company for the purchase of the ancient quarries on Mount Pentelicon. From them the greater part of the marble employed in the public buildings of ancient Athens was derived. An immense quantity of material still remains, for the old quarries would be able to supply stone for a great many cities the size of ancient Athens. The marble is almost pure carbonate of lime, but there is more sparkle in the crystals than is found in Italian marble. Blocks of immense size can still be obtained. When the quarrying was primitive, it was possible to obtain a block that was beam-like, as the lintel of the great gate of the Propylæa in Athens, which is calculated to weigh about 22 tons. Some travellers have maintained that the square holes which are still visible in the rock were intended to receive beams which formed part of the machinery for conveying marble to the foot of the mount. It is supposed that a market for the stone will be found in Western Europe. It is also proposed, as part of the operations of the company, to purchase and export the beautiful Parian marble from Paros. It is of a different texture to the Pentelic. To the Romans it was known as "Lichnite," because it was believed the stone was found underground, and had to be dug out by the light of lamps. But at the present time there is no trace of a subterranean working, and the marble seems always to have been quarried from the side of the hill. The appellation was more likely to have been derived from its sparkling quality, in which it exceeds Pentelic.

The Rue des Prêcheurs, in Paris, is a very short street, and the title would suggest some connection with the Order of Preachers. It leads from the Rue Saint Denis to the Halles Centrales. There was no Dominican convent in the neighbourhood, and it has been supposed the name recalls Robert le Prêcheur, who possessed a house there towards the end of the twelfth century. There is evidence that in the middle of the thirteenth century it bore the same name as now. Others derive the name from a piece of sculpture in wood which for centuries was known as the Arbor aux Prêcheurs. This is a Tree of Jesse, having twelve branches, each ending in a flower from whence springs a prophet. On the summit was a figure of the Blessed Virgin. The sculpture is not in good condition, but it could hardly be otherwise when we remember it has been exposed to the vicissitudes of time, weather and riot for six or seven centuries. However defaced, it must always be interesting, for it is the last example of a class of sculpture which in Mediæval times was often seen on corner houses. The old building to which it belonged has been purchased by the Municipality of Paris in order to widen the street, and the Tree of Jesse has been sent to the Carnavalet Museum, where it will be preserved in company with many other relics of bygone times in Paris.

A new church is to be erected as a substitute for the old parish church in Shettleston, near Glasgow; the architect is Mr. W. F. McGibbon. An order has been made by the sheriff that the "heritors" are to proceed with their work forthwith, and that the church is to be open for public worship on or before June 1, 1901. The case is interesting as exemplifying the difficulties which arise in Scotland when all the parties who have rights in a church are not of one mind about what should be done. The heritors, who by Scottish law will have to pay for the new building, have opposed the project with much ingenuity. In the first place, it was maintained that, owing to the mineral workings under the proposed site, there might be a subsidence of the ground and injury to the walls of the new church. The site had been selected after much deliberation. The sheriff, however, asked Mr. Bell, architect, of Glasgow, to report on the subject, and to examine the district to see if a more eligible site could be discovered. Acting on Mr. Bell's reports, the sheriff decided upon a particular site which is to be used. The heritors then protested against it in one of the upper Courts, but subsequently withdrew the appeal. The next move was to oppose the erection of the church according to the plans and specifications of which the sheriff had approved. According to the heritors, the business of the Court was confined to seeing if the necessary comfort and accommodation were provided. Then it was said that no church could be erected without deviations from the plans, for which there was no provision. The final objection was the insufficiency of the period allowed for the works. As there was no valid reason to the contrary the sheriff made no change in the arrangements.

ILLUSTRATIONS.

WESTMINSTER ABBEY: NORTH AMBULATORY, LOOKING EAST. ABBOT'S COURTYARD. DEANERY AND CORNER OF CLOISTERS.

WOODGATE, SUTTON COLDFIELD:
GARDEN FRONT. ENTRANCE FRONT.

DESIGN FOR PUBLIC LIBRARY AT DUMFRIES AND MAXWELLTOWN, N.B.

The design we reproduce this week would have interest if it were only for exemplifying one of the risks of the competition system under the latest arrangements. The drawings and description by Messrs. Robb & Grierson were marked "No. 4," and to "No. 4" the first premium was said to have been awarded. But a different design was adopted, and it was afterwards declared that the No. 4 now published was No. 6. The arrangement of the rooms can be seen from the plan. It was proposed that the front should be in red Dumfries dressed stone, the walls to general newsrooms, lending and reference library to be also in red Dumfries, but in rubble. Cement concrete would be laid over all surfaces, under wood-block floors and under mosaic or tile pavements. The roofs were to be covered with Bangor countess slates. The cubical contents, including areas and front boundary wall, were 300,672 feet. The estimated cost of the building, 8,200*l.*; book-cases and tables, 500*l.* Total cost, 8,700*l.*

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

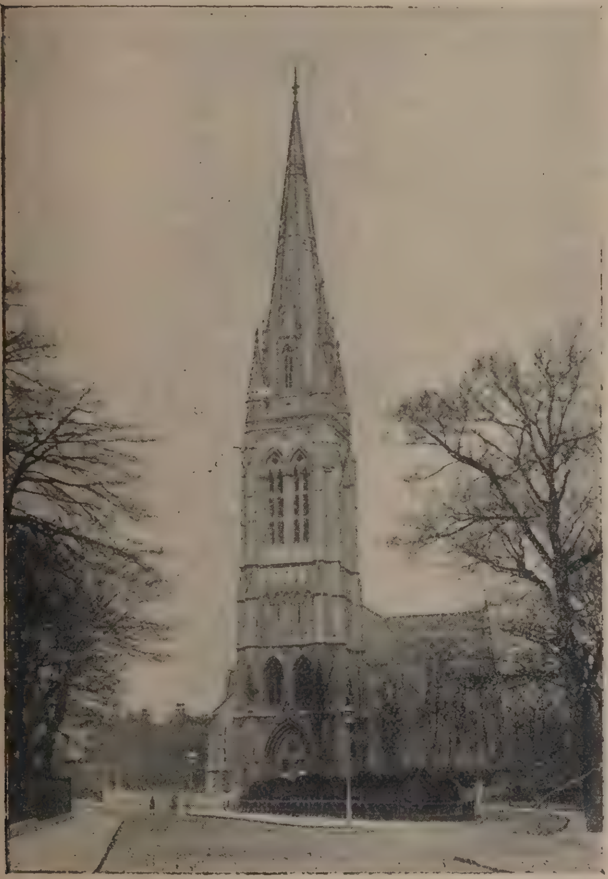
Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

The Works of Gibbs and Gerente.

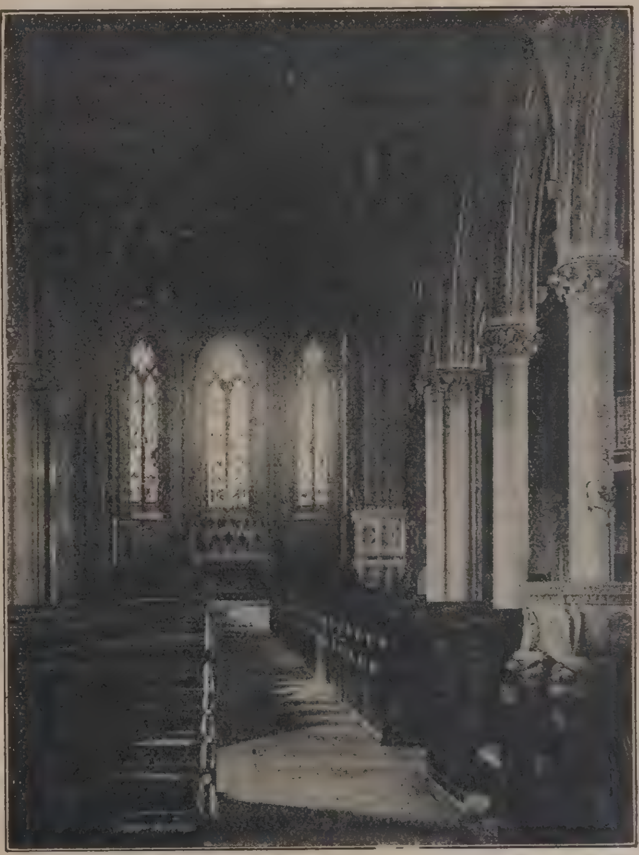
(*Continued from page* 99.)

THE interval that elapsed between the stoppage of the works at All Saints, Notting Hill, in 1854, and their resumption six years later, was marked by the erection, in quite a different suburb of London, but on a still more grandiose scale, of a new parish church for Stoke Newington, already made remarkable in an ecclesiological aspect by Mr. Butterfield's church of St. Matthias.*

St. Mary's, Stoke Newington, belongs, properly speaking, to a series of churches produced during that inventive or original phase of the Gothic movement which our history has not yet reached, but as it contains several stained-glass windows from the ateliers of one of the artists whose works are at present under consideration, some brief description of this noble edifice not inappropriately finds a place here.



St. Mary's, Stoke Newington, from the S.W.



Interior of St. Mary's, Stoke Newington, looking E.

The work of Sir G. G. Scott, Stoke Newington Church is one of a large number upon whose erection the architect was engaged in different parts of the country during the six years alluded to above, the list comprising not only such churches of minster-like character as that at West Derby, Liverpool; St. George, Doncaster (whose general plan was pre-dictated by its large Third-Pointed predecessor); and St. Paul, Dundee (where we find a modified German plan cleverly wedded to English details); but others of more modest dimensions, among which may be named St. John Baptist's, Eastnor; Holy Cross, Ilam; All Saints, Ridgmont; St. Paul's, Chippenham; St. John's, Leicester (much praised by Sir Charles Anderson, and noticeable for the natural polychromy of its steeple, in emulation of the well-known one at Irchester); St. Andrew's, Westminster (a most graceful conception, to be noticed more fully hereafter); All Souls, Haley Hill, near Halifax (the sumptuous gift of Mr. Akroyd); St. Matthias, Richmond; the churches of Hawick and Hawkhurst, and the chapels of Harrow School and Exeter College, Oxford.

All these buildings, very refined in style, though somewhat cold from an ecclesiological point of view, are edited, so to speak, in a style which embodies reminiscences of North-Eastern French Gothic as exemplified in Châlons-sur-Marne, Troyes and Metz, and in certain Belgian churches of the better sort. Allied with this, these churches present not a little that is insular, while originality, which their architect never allowed, as did some of his compeers, to degenerate into bizarrerie, prevents any of them from appearing commonplace or mean. St. Mary's, Stoke Newington, does not betray a thorough conversion of Sir Gilbert Scott to foreign forms, yet it affords a sufficient illustration of the architect's belief that the Pointed of France, North Italy and, in some respects, that of Germany, may be studied with perfect advantage, and, if rightly used, can be found to supply a vast fund of material which, without infringing upon its nationality, may be imported into our own insular one.

Thus, in Stoke Newington Church its non-English character is manifested by the cross form without a central tower; in the employment of a nave divided from aisles of the same height by tall cylindrical columns, with abaci of the square and octagonal form, and in whose capitals bold and natural forms of floral ornament are made use of; in the less complex nature of the arch mouldings; in the adoption of that particularly grand but by no means exclusively continental feature, the western steeple opening into the church by a lofty arch; and lastly, by the polygonally apsidal eastern termination lighted by tall windows of two trefoil-headed lights apiece, and traceried with a sexfoiled circle.

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* To decide between the rival excellences of these two churches is a difficult task. They are curiously unlike, and critics take their sides according to their predilections. Perhaps the balance would be slightly inclined in favour of St. Matthias as exhibiting greater originality and independence of thought; but lovers of traditional rthern Pointed will prefer St. Mary's.

The situation enjoyed by St. Mary's at the west end of Church Street—a long winding thoroughfare, once an almost uninterrupted succession of grand old red-brick mansions, but now rendered offensive by "the march of modern improvement"—and in close proximity to the lately formed Clissold Park, is remarkably fine. Immediately opposite stands the old church, whose demolition upon the completion of its imposing vis à vis in 1858 was, it is gratifying to chronicle, warmly opposed by the parishioners. Although of little interest architecturally—it having been, with the exception of the low, late sixteenth-century south aisle, rebuilt and enlarged by Sir Chas. Barry in 1829—old St. Mary's is sufficiently picturesque to delude the uninitiated into the belief that it is a veritable Perpendicular building. A plain brick tomb close to the south-west gate of the churchyard will be regarded with interest as the last resting-place of Anna Letitia Barbauld, one of the most gracefully-accomplished women writers of the latter part of the last and the early years of the present century.

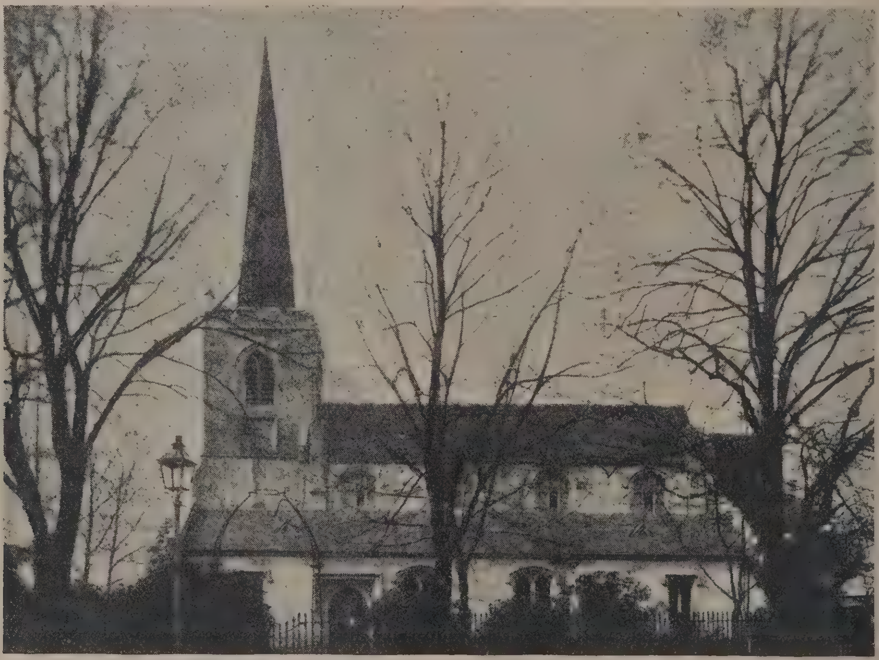
The declining days of Mrs. Barbauld were spent in Stoke Newington, at the house of her brother, Dr. Aikin, who lies in the same grave, and to whose "Evenings at Home," which still retains its place on the shelves of our young folks, she contributed several papers.

At the time of Mrs. Barbauld's residence in Stoke Newington (c. 1816), and of which we catch glimpses in the pages of Crabb Robinson's Diary, America's weird writer, Edgar Allan Poe—whose reputation as a poet rests upon those fine pieces of mystery and music "The Raven" and "The Bells," and whose "tales," such as "William Wilson" and "Gordon Pym," while deficient in human sympathy are ingeniously constructed, hold us spellbound to their very last pages—was placed at school in one of the old houses which not long since existed in Church Street. At that time Stoke Newington was the "misty looking village of England" so feelingly described by Poe many years after in his "William Wilson," "where there were a vast number of gigantic and gnarled trees, and where all the houses were excessively ancient. In truth it was a dreamlike and spirit-soothing place, that venerable old town. At this moment in fancy I feel the refreshing chilliness of its deeply shadowed avenues, inhale the fragrance of its thousand shrubberies, and thrill anew with undefinable delight at the deep hollow note of the church bell, breaking each hour with sudden and sullen roar upon the stillness of the dusky atmosphere in which the Gothic steeple lay embedded and asleep."

The two exterior views given of St. Mary's—one showing its aspect from the north-east prior to the completion of the steeple in 1888-90, and the other from the west with that member finished—render a detailed description of this remarkable building—which, by the way, occupies the site of the old rectory-house garden*—unnecessary. The former of the two views is undoubtedly the finer, as displaying the minster-like outline of this queen of modern parish churches to great advantage. From the apsidal sanctuary, so ingeniously wedded to the aisled and clerestoried chancel, the eye travels past the majestic transept with its noble five-light window to the nave, where the gables surmounting its tall three-light windows produce a serrated effect that is particularly pleasing.

These gables at St. Mary's are not merely ornamental like those seen in the naves of its prototypes—sundry Belgian and German churches of the "hall" class. There, nave and aisles being vaulted at the same level, gables are introduced merely to mitigate the ungainliness which, when they are not made use of, results from the employment of one huge mass of roof to cover nave and aisles.† Here, as will be seen when the visitor enters the church, they are a reality, having been requisitioned by the architect to contribute a very graceful and original feature, in the roofing of the aisles, towards the ensemble of the interior.

The greater portion of the work on the exterior, hereafter to be carved out, still remains en bloc. This, however, is no detriment to the general effect of the church, but rather increases its air of minster-like grandeur.



Stoke Newington: South Side of Old St. Mary's.

The carving of the north porch, where oak leaves and acorns are felicitously introduced in the capitals of the attached shafts, was undertaken in 1872, and that of the western portal and steeple generally about eleven years ago, when the upper portion of the tower and the spire were added from Mr. John Oldrid Scott's designs.

The belfry stage of the former, with its long reed-like shafts, is undeniably graceful, recalling some of the steeples in and around Caen, and its effect will be enhanced and invigorated when the openings have received their barge-boards.

Bells are, at the present writing, among the desiderata, those in the steeple of the old church supplying, pro tanto, the deficiency.

The spire, which, it should be remarked, differs (as indeed does the lately completed portion just alluded to) entirely from the one originally planned by Sir Gilbert, has a somewhat hungry look, and from certain points of view is not at all agreeable in contour.

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* A view of this picturesque building, with the new parish church rising in its rear, will be found in Thornbury & Walford's *Old and New London*, vol. v. p. 540.

† When the unclerestoried type of church was used in England, which was not often, the aisles were contained beneath roofs separately gabled, a much more pleasing and picturesque arrangement, as evidenced by the lady chapel at Salisbury, the Temple Church, St. Thomas of Canterbury, Winchelsea, and Austin Friars, near Broad Street. Pugin's St. Chad's, Birmingham, would have greatly gained in effect by this arrangement.

Internally, the great beauty of proportion, refinement of detail and extreme magnitude of St. Mary's, place it as the most noble and imposing of the modern churches of this kingdom. The nave is very open and graceful, while the chancel, if wanting in those accompaniments which nowadays are deemed indispensable to every well-ordered town church, is second to none either in careful selection of sculptured ornament or in amplitude of dimension.

The interior view given of this church brings out in tolerable sufficiency the main features of the building, but there are others not so clearly indicated, and which require some brief elucidation. Sir Gilbert's treatment of his crux, always a delicate member to handle when the central steeple is absent, was most masterly.

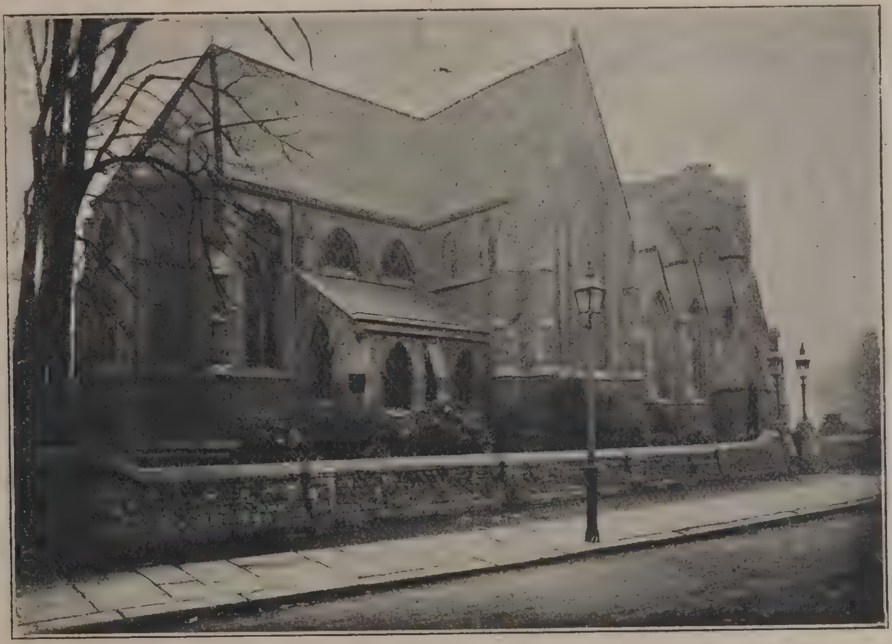
Boldly eclectic, he carried the arch spanning the entrance to either transept along in the same level with those of his nave, superimposing it with that charming Italianising feature, the light open arcade, in this instance of wood. Still further is the cruciform character of the interior minimised by the substitution at the western arch of the crux of a wooden for a stone arch, springing from a slender shaft imposed upon the abacus of a grand cluster at the junction of the nave with the transepts.*

The architect's treatment of the aisle roofs exhibits considerable cleverness and originality. They are a kind of medium between the lean-to and those roofs that out-gable in quasi-transeptal fashion, a traceried tie-beam introduced between each window and springing from simple corbels assisting to impart picturesqueness to the aisles, besides accentuating their transversely gabled character.

The fenestration of the south transept, arranged for the reception of the organ, will be noticed, composed as it is of a couple of discontinuous two-light windows, with a traceried rose above, all placed high up in the wall.

The roof covering the nave is of the polygonal or cradle form, that in the chancel and apsidal sanctuary waggon-shaped, with plaster between the closely set ribs. An apse of whatever form cannot be called perfect without a groin, but Sir Gilbert's treatment of his roof here at St. Mary's is a not unsuccessful effort to grapple with the situation when material for such a feature is not forthcoming, and like many other points in this fine building can lay claim to no little invention. The same treatment of the apse roof had been pursued a few years earlier in St. Andrew's, Westminster, but in the other church similar in motif to St. Mary's—St. Paul's, Dundee—both chancel and apse are provided with that indispensable feature, the stone groin. In the chancel of Stoke Newington Church the columns separating its two arches are coupled transversely, recalling Sens and the eastern part of the choir of Canterbury. Here the detail is extremely rich, the soffits of the arches, which are very broad and flat, having angels in relief and enclosed in panels of that form which may be described as the superimposition of a lozenge on a quatrefoil.

It is the incompleteness of its ritualism that is the drawback to St. Mary's.



Stoke Newington: New St. Mary's, from the N.E.

(*Before the Completion of the Tower and Transepts.*)

Ecclesiologically cold, it gives one the impression, as do many, even the most sumptuous, of Sir Gilbert Scott's churches, that the main fabric being finished, the architect had concerned himself but little about its furniture and decoration.

The font, a very graceful conception equipped with effigies of angels in marble by the younger Westmacott, was in position when the church was consecrated, June 25, 1858; the reredos (a Cœnacolo placed behind graceful arcades) and the pulpit—both sumptuous creations, but of a type now rarely adopted—following somewhat later (1863-66), from the chisel of Messrs. Farmer & Brindley.

Æsthetically, what we most desiderate in a church of such length as St. Mary's (153 feet) is some line of demarcation—whether of wood or metal—between nave and choir.

The absence not only of this feature but of parclose screens, coupled with the choking of the chancel aisles with appropriated sittings, are serious detriments to the dignity and seclusion that the eastern limb of a church should exhibit. Other, but not so palpable, desiderata are sedilia and credence, such instrumenta on a scale commensurate with the grandeur of the fabric never having been provided.

And this brings us to the subject of the stained-glass in Stoke Newington Church, the vitreous decoration of which, it must be confessed, is, speaking generally, by no means worthy of this magnificent fane. The work of Mr. Alexander Gibbs is seen in the great north transept window, in the spherical one above the north porch, and in the couplet of two-light windows, surmounting the western entrance, all of which was inserted during 1878. In the opinion of the writer, the glass in the last-named windows is the most satisfactory production of Mr. Gibbs in this church, portraying, as it does, two tiers of Old Testament figures seated against ruby backgrounds. The spherical window—a pretty composition of one large cinquefoil and two quatrefoils of lesser diameter—has, in the former, a prettily treated figure of Our Lady holding the Divine Infant, and seated beneath a canopy of tapestry-work, and in the two latter the Annunciation, exhibiting much reverential feeling. The same praise cannot, however, be extended to the glass that Mr. Gibbs has put into the great north transept window, a fine one of five lights surmounted by a wheel, traceried with a circlet of five foliations surrounded by six smaller ones of four.

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* A cruciform church without a lantern, or at least a four-arched crossing, can never be of the most perfect type of its order; nevertheless, if the transepts, however shallow they may be, open into the nave with conspicuous arches, a dignified effect can seldom fail to result from their juxtaposition to the choir arch. An instance of the concealment of the existence of transepts to the utmost extent from the congregation occurs in Mr. Butterfield's cathedral of St. Ninian at Perth, partly completed in 1851, and, ten years ago, extended westwards. At St. Ninian's not only do the north and south arches of the transepts correspond in all dimensions with those of the nave bays, but the transverse ones between the aisles and the transept die away into the wall in lieu of being brought down upon responds.

The size and grandeur of this window offered a splendid opportunity for the display of a subject evincing some iconographical knowledge and research; as, for instance, the Te Deum, the Benedicite, or the Radix Jesse. Vexatious indeed it is to have to chronicle that nothing of the sort has been attempted, the three central lights of this finest of modern parish church windows being devoted to a commonplace representation of the Transfiguration and of its immediately subsequent miracle, while the outer lights have been given up to groups within medallions, illustrative of the Corporal Works of Mercy, and equally uninteresting.

Of course the artist is not altogether responsible either for this glass or for that which fills the three lofty aisle windows east of the north porch, than which, by the way, nothing so completely alien to the style and dignity of the church can be conceived. The selection of subjects which hardly rise above the coloured plates in a child's book of Sunday stories rested with the authorities of the church, who are to be blamed for not submitting the matter either to its architect or to persons capable of judging of the style of glass suitable for so important a locale. Some idea of the glass most suited to a church of this description may be gained by the visitor who turns from these feeble productions to that in the third window counting from the east in the south aisle, which, with its three small subjects ranged in the centre of the lights, white glass being employed above and below, imparts sufficient richness, obscures no light, and preserves the élancé character of the framework. Then there are the effigies of the Evangelists in the trefoil-headed lancets of the transepts' clerestory—perfect models of their kind, approved by Sir Gilbert Scott, and of a type which he would have wished to see adopted in other parts of the church. Like the south aisle window just alluded to, these are from the ateliers of Messrs. Clayton & Bell.

In the glass which fills the windows of the apse its artists can hardly be said to have been permitted to do themselves justice. This being a position in which uniformity of design was a matter of necessity, Messrs. Clayton & Bell were precluded from emancipating themselves from the motif which they had proposed when, very early in the sixties, the scheme for the decoration of these graceful windows was settled. The central window was fixed about 1861, and fifteen years elapsed before another one received its complement of stained-glass. During that period it need hardly be said that vast strides had been made in the vitreous art of England, while the style of Messrs. Clayton & Bell had undergone some great and important changes, both in drawing and tincture; but, taken as a whole, this series—to which we shall have to recur at a later period of this history—is a remarkably good one. It is, moreover, iconographically interesting, and, most important of all, is thoroughly in accordance with the surrounding architecture.

Mr. Ben Gooden, stone merchant, Brighouse, has just died at the age of forty-nine years, after a brief attack ot acute bronchitis. He was well known in the Yorkshire stone trade, and was highly esteemed. He leaves a widow and young family of two sons and two daughters.

NIELLO WORK.*

THE study of niello work perforce carries us back to the subject of engraved designs on metals, with which art it is intimately connected. Such designs were at first used as finished ornamentation in themselves, as, for instance, the beautiful Greek engravings on bronze, many of which were found at Corinth and date as far back as the fifth century B.C., or possibly earlier; or the Etruscan work of similar character in mirrors and caskets of a still earlier period.

Subsequent engravings on metal, known specimens dating back to about the first century A.D., were treated with a further process, the engraved lines being filled up with a black metallic amalgam, now known as "niello," and finally, some time during the fifteenth century, the engraved plates began to be used only as originals, for which prints could be produced in quantities. It is interesting to know that prints were actually made for engraved plates intended for niello; indeed, for a long time it was considered that such "proofs" were really the first prints made from such plates. But that belief is now modified. Prints made from "niello" plates are highly valued and always have words and dates reversed. They can have been of little use, and were probably only made as experiments.

Niello is applied to a metallic surface in a similar manner to that used in the case of vitreous enamel. A design is cut out of the metal plate, and the niello is put into it or over it, melted, and the superfluous residuum scraped off Niello is itself metallic, therefore it is less liable to chip off than vitreous enamel, the expansions and contractions of the metal bed being more nearly in accord with its own movements from the same cause.

The earliest mention of niello work is in a remarkable treatise written by Eraclius about the middle of the tenth century. The original of this treatise, "De Artibus Romanorum," is lost, but there is a copy dating from the thirteenth century in the British Museum (Egerton MS. 840A).

Eraclius says the niello should be made of "equal parts of quicksilver, copper and lead, fused together with sulphur; then take atramentum (probably sulphuric acid) tempered with wine, and make what you wish upon silver with the atramentum, and overlay it with the metal and a beautiful niello will be made."

The next important mention of niello is in the treatise "De Diversis Artibus," written by the monk Theophilus in the first half of the eleventh century. It was translated by Robert Hendrie in 1847. Theophilus quotes from Eraclius, and there are copies of his MS. at Paris, Vienna and London. His recipe differs a little from that given by Eraclius, and is as follows:—Silver, one part; copper, one-third part; and lead, one-sixth part; all to be fused together with yellow sulphur by melting in a crucible. Cool and powder, and apply to the metal at a low heat with "parahas gum," which Mr. Hendrie thinks is borax.

Theophilus further says you can make a stick of niello and rub it on to an engraved plate made hot. For polishing he recommends stone powder, mixed with saliva, rubbed on with a piece of lime-tree wood, to be finally finished by rubbing over with "wax from your ear."

In the "Trattato dell' Oreficeria" of Benvenuto Cellini, published at Florence in 1568, there is mention again of niello. He advises a different proportion of the same ingredients, namely, silver, one part; copper, two parts; lead, three parts; all to be melted together and mixed with powdered sulphur and borax. He also says that the heated plate should be coated with borax and the niello applied at a low heat. It easily burns. Rub it over with a hot spatula, file off when cold and burnish while warm; polish with tripoli, charcoal and a reed.

The mixture I have used successfully, under the advice of Mr. R. E. Atkins of the technical schools of the London County Council, is composed of silver, one part; copper, three parts; lead, six parts—being the same as that recommended by Cellini, but with a larger proportion of lead and copper. This is fused with sulphur, cooled and powdered, and used with sal ammoniac. I succeeded better as to the firing with the blowpipe than I did with the furnace.

The word niello is an Italian form of "nigellum," and the art itself is usually associated only with Italian work of the fifteenth century, but in fact it is of much earlier origin.

There is a considerable amount of small niello work in silver and bronze, dating about the first four centuries of the Christian era, of Roman workmanship. Statuettes, fibulæ and centres of silver dishes are especially favoured; some of these are heightened in effect by party gilding.

A complete set of toilet accessories of silver belonging to a Roman lady was found near the Esquiline Gate in 1793. There are several pieces of niello work among them, all small, and with accessory gilding. The whole set is contained in a beautiful repoussé silver casket, and was made about the fourth or fifth century. An inscription on the lid mentions the names of the bride and bridegroom, and their portraits are also given in repoussé work. There are also monograms of the names Turcius and Projecta in niello, and slight gilding on the dishes, round and rectangular, which were found in the casket.

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* A paper read by Mr. Cyril Davenport before the Society of Arts.

About the time of King Alfred in this country there appear to have been made a number of gold ornaments with niello. Those I have to show you pictures of this evening are gold rings, and they are remarkable pieces of jewellery. They are heavily made of pure gold, deeply engraved, and the depressions filled with niello. In all cases the niello has a blueish tinge, and I have not yet been able to decide whether this colour is apparent or real. I think it just possible that the lead which is given in the recipes for making niello has in these cases been omitted—we all know what a dangerous thing it is to melt lead with gold—and some other metal substituted. Anglo-Saxon nielli are also found on silver and bronze.

Of Celtic workmanship I have only one specimen to show you; it is, however, a very fine one, and associated with inlays of silver. In Ireland there are, I believe, several fine specimens still preserved, mostly on bronze.

There are instances of niello work to be found on the enamels of the beautiful "Pala d'Oro" at Venice. This is the finest existing specimen of Byzantine church ornamentation, and consists of a large number of enamelled plaques representing various scenes from Biblical history, portraits of saints, &c., and the lettering in these enamels is in niello. They date generally about the tenth century.

In the thirteenth and fourteenth centuries most of the specimens of niello work I have been able to find are of French origin; they consist of small silver plaques used as adjuncts to the ornamentation of religious vessels, croziers, reliquaries, &c.; then in the fifteenth century came the large engraved and nielloed silver plaques used chiefly for decoration of the Pax. In these cases the nielloed plate is the chief feature, and during this period it loses its "accessory" character. The most celebrated engraver that used this process was Tommaso, or 'Maso, Finiguerra, of Florence; he was known by repute to Benvenuto Cellini and highly esteemed by him. The process of niello was also largely used for the decoration of churches in various ways, small altars, sacred cups and vessels, crosses, reliquaries and bookbindings, and at a later date its use was extended gradually to secular objects, and it is found on sword handles, knives, buckles, bracelets, rings and coffers.

Russia, Siam, Turkey, Burmah and Italy have all to some extent kept up the art of niello, but most of the modern work certainly is made in Russia, in the Caucasus. The objects decorated are various—powder flasks, helmets and all kinds of small objects—but not by any means all religious.

At the time of Finiguerra, or shortly after it, it was not uncommon for the engraver to make a mould of his work in the metal with fine clay; into this he poured melted sulphur, and inked the resulting cast. The result is a complete replica of the original engraving. These sulphur casts are now highly valued; in many instances the original plates from which they are made are lost.

The celebrated Pax of nielloed silver representing the Coronation of the Virgin, engraved by 'Maso Finiguerra, was reproduced in sulphur before the niello was put on. Two of these sulphur casts are now known, but a still rarer impression from the same plate is preserved at Paris; it is on paper, and for a long time was considered to be the first print taken from a metal plate.

The question of the origin of the process of making prints on paper from an inlaid metal plate has been the subject of much learned discussion. It will be found debated from all points of view in the writings of Bartsch, Vasari, Dutuit, Duchesne and several others, the net result being that as far as is now known the idea was first carried out about the middle of the fifteenth century. I hardly think myself that it arose because of niello work, for this reason. An impression on paper from the inked plate is reversed, and to correct a plate what is called a *contre-épreuve* is required. From this point of view the casts in sulphur would have been of real use, whereas the paper impression would be valueless. The discovery indeed may have been accidental, as Vasari considers it was. It is, at all events, safe to say that a print was made from Finiguerra's plate about 1450, before it was nielloed, and also that for the purpose of correcting the plate this print was of little or no use.

Except the Italian artist-goldsmiths of the fifteenth century and the Anglo-Saxon "Edward," who made a gold ring for "Ethred," the names of niello workers are not much known. But during the fifteenth century there are plenty of well-known names. The niello workers of Florence, besides Finiguerra, include Antonio Pollajuolo, Amerighi, Bandinelli and Brunelleschi; at Bologna worked Francesco Francia; at Milan, Ambroglio Foppa and Daniel Arcioni; at Geneva, Tagliacarne; at Cremona, Tomaso Fodri; at Modena, Giacomo Porta; and besides these there are a host of less celebrated artists.

After this the aim of niello work has been on a lower level. Small ornamental work has been done and still is in Russia, France, Italy, Siam and other places. The art is a beautiful one, and might well be used in silver jewellery here.

To illustrate these remarks, I have a series of slides to show you, which I have divided into three divisions. Speaking generally—

The first shows the early work, dating from the first century to the fourteenth, consisting chiefly of Roman, Anglo-Saxon and Celtic specimens, with one or two pieces of French and Italian thirteenth and fourteenth-century work. All small, and generally secular.

The second division is that of the Italian work of the fifteenth century, where the niello is the main decorative point, the engraving most delicate and refined, and the subjects almost always religious in character.

The third division will show the modern outcome of the two foregoing periods, and give you some slight notion of the work done from the sixteenth to the nineteenth century, chiefly in Russia, Italy and Siam.

I have taken my specimens chiefly from one or other of our great museums in London, the British Museum or the South Kensington, to the officials of both of which offices my thanks are due for the facilities they have always given me. I prefer, if possible, to take my examples from our own collections, because I feel that it makes it easier for any of my audience that may wish to follow the subject up to examine the originals for themselves.

The first of the slides I have here this evening will show a silver plaque in the various stages of niello working. It is in the South Kensington Museum, and was made for this purpose by Consoli Alfio. Then come the early examples, dating from the first to the fourteenth century.

1. A beautiful bronze statuette of a Roman imperial personage of the first century inlaid with silver and niello, found near Barking Hall in Suffolk.

2. One of the dishes found in a silver casket near Rome in 1793. The casket contained toilet accessories for a Roman lady, and there is niello work and the monograms "Projecta-Turcius" found in the centres of the dishes. They are of about the third to the fifth century A.D.

3. An Anglo-Saxon silver-gilt brooch, with flat garnets and small niello work. About the eighth or ninth century.

4. The Anglo-Saxon gold and niello ring marked Ethelwulf found near Salisbury. Of about the ninth century.

5. The Anglo-Saxon gold and niello ring of Ethelswith, queen of Mercia. Found in Yorkshire. Of about the ninth century.

6. The Anglo-Saxon gold and niello ring of Alhstan. Found in Carnarvonshire. Of about the ninth century.

7. The Anglo-Saxon gold and niello ring of Ethred, made by Eanred. Found in Lancashire, and made about the ninth century.

8. An Anglo-Saxon knife, inlaid with silver and brass, lettered in niello, and made by Biorhtelen. Of about the ninth century.

9. A Merovingian brooch of silver, party gilt, with small niello patterns. Of about the nine or tenth centuries.

10. A Byzantine silver dish, with repoussé head in the centre and richly designed niello borders. Of about the tenth century. Found in Cyprus.

11. Another Byzantine dish, of the same origin as the last, with a niello cross in the centre.

12. A gold enamelled Byzantine plaque with head of Christ, the lettering in niello. Of about the tenth century.

13-14. Two gold enamelled panels from the Pala d'Oro at Venice, with letterings in niello. Of about the tenth century.

15. The bronze top of the Irish capped Bell of St. Culan, the "Barnan Coulawn," with designs inlaid with silver and niello. Of the tenth century.

16. Crozier head made by Frere Hugo, the monk, of Oignies, near Namur, with small niello plaques. Early thirteenth century.

17. Italian ciborium of gilt copper with niello plaques. Thirteenth-century work.

18. French reliquary of gilt copper with small niello plaques and one large plate with niello. Of the fourteenth century.

19. A gilt and enamelled binding, with small niello work among the enamel. Probably fourteenth century.

The next division is all fifteenth-century work, the first slide showing the most celebrated piece of niello work known—that to which the discovery of printing a paper for an engraved print is commonly considered due.

1. Italian Pax of silver, engraved and nielloed by 'Maso Finiguerra, of Florence, and now in the Bargello at Florence. Probably made about 1452. There is a paper print from it at Paris, and a sulphur cast at the British Museum.

2. An extra slide, showing a print dated 1446, which, if genuine, negatives the attribution of the earliest prints to Finiguerra.

3. Italian silver medallion with niello.

4. Italian badge in mother-of-pearl, with silver-gilt border having nielli upon it.

5. Italian silver plaque, with nielli.

6. Italian reliquary of silver, with niello of the Virgin and Child.

7. Italian reliquary of gilt copper, with silver panels nielloed, having designs upon them taken from the life of St. Catherine.

8. Italian niello plaque, attributed to Peregrini.

9. Upper part of one side of a silver nielloed binding now at Vienna. It bears the arms of Cardinal Balue, and was given to Pope Paul II. by him.

10. Italian Pax of silver in enamelled frame. The Virgin surrounded by angels and saints.

11. Italian Pax of silver nielloed with design of the Man of Sorrows.

12. Italian Pax of gilt metal with small niello plaques on the plinth.

13. Flemish cup of silver with niello, mounted in silver gilt. Formerly in possession of the family of Van Bekerhout.

The third division will show you something of the work that has been done in niello since the fifteenth century :—

1. Arabian helmet plate of steel, with name of Arslan Beg in niello. Probably sixteenth-century work.

2. Russian Tcharka with gilding and niello on silver. Sixteenth century.

3. Russian cup, with jewelled mounts. Silver gilt and nielloed. Seventeenth century.

4. Dagger handle of silver gilt, chased and nielloed. Seventeenth century.

5. Siamese Kathôn of silver, parcel gilt with niello. Eighteenth century.

6. Russian priming horn, silver gilt and niello. Eighteenth century.

7. One of a pair of pistols from the Caucasus, mounted in silver, with niello. Eighteenth century.

8. Russia cup, silver gilt with niello. This modern Russian work is generally known as "Tula."

9. Wine flagon from the Caucasus, mounted in nielloed silver and party gilt. Eighteenth century.

10 Priming horn from the Caucasus, mounted in silver, party gilt, with niello. Eighteenth century.

11. Military badge from the Caucasus, of silver, with niello inscription.

12. Siamese silver-gilt bowl, with designs on a niello backgronnd. Nineteenth century.

13. Turkish yataghan, the silver handle with niello and party gilding. Nineteenth century.

14. Italian Pax of silver, with nielli. Nineteenth century.

With regard to these slides I must say that there has been considerable difficulty in producing them. This is due to the curious fact that an apparently dark piece of niello, when photographed, shows much lighter than would be expected. I suppose this has something to do with the silver in it, as I have often noticed that tarnished silver shows much whitened in a photograph. Again, silver in the near neighbourhood of niello is often stained a yellowish tinge, owing I suppose, to the sulphur, and this photographs darker than would be expected. So between the lightening of the niello and the darkening of the silver, in many instances the design, easily seen by the eye, in the photograph is almost invisible. I have in one or two instances had to bring in the aid of art, but I must ask you to imagine the designs in niello to be actually much darker than they appear in most of the slides.

THE ARCHITECTURAL ASSOCIATION OF IRELAND.

THE annual dinner in connection with the Architectural Association of Ireland took place in the Royal Hibernian Hotel, Dawson Street, on the 13th inst. Mr. George P. Sheridan, president of the Association, occupied the chair, and there was a large attendance of members and guests.

After dinner the Chairman gave the toast of "The Queen," which was duly honoured.

The Chairman then proposed the toast of the evening, "Success to the Architectural Association of Ireland." He said the Association, so to speak, was in a state of adolescence, being only three years old, but they had done good work in that time. The object of the Association was to encourage architectural education, and so successful had they been in promoting the object that the effect had already been felt. He, therefore, thought they were justified in drinking to their "noble selves"

Mr. R. M. Butler, in responding, said they had reason to congratulate themselves on the position their Association now occupied. It was not, however, the first Association of the kind formed in Dublin. More than thirty years ago there was established in Dublin an Architectural Association on the lines of the London Association, and Mr. J. J O'Callaghan, who was an active member of the present Association, was its first president. That old Association flourished for a number of years, but, chiefly owing to the increasing claims of practice on the members of the committee it languished and ultimately ceased to exist, and it was not until about three years ago that a few of them met together and decided to resuscitate the Association. When they started there were absolutely no facilities for a student to acquire even the elements of professional knowledge, if he excepted the teaching in the School of Art of freehand drawing. The Association had not yet been able to establish a very advanced educational curriculum, but they had created classes where, if they chose to avail themselves of them, the pupils in architects' offices might at least learn the difference between a steel girder and a brick. Mr. Thomas Drew, president of the Institute of Architects, had given them great assistance, and had placed his rooms at their disposal, and their worthy guest, Mr. Murray, had not been behind Mr. Drew in that respect. With the work done up to the present they might, he thought, be satisfied and congratulate themselves on the success that had so far attended their efforts.

The other toasts included, "Our Guests," responded to by Mr. A. E. Murray and Mr. John Good ; "The President," proposed by Mr. Batchelor, and "Our Musical Guests," proposed by Mr. Tighe.

During the evening an entertaining programme of songs and recitations was contributed by Messrs. Scott, Buchanan, Birch, Hicks, Wrenn, O'Connor, Rogers, Holloway and Coleman.

BRISTOL SOCIETY OF ARCHITECTS.

THE ordinary monthly meeting of this Society was held at the Fine Arts Academy, Queen's Road, Mr. W. L. Bernard in the chair. After the election of three new members Mr. G. H. Oatley read a paper on "Bills of Extras," dealing with the cause of these almost inevitable accompaniments to building contracts, and showing how extras might be reduced to the minimum by very careful preparation of the plans, details and specification. A fruitful source of extras was very often the inability of the client to clearly formulate his requirements and supply his architect with proper particulars ; another cause being the very inadequate time allowed in these days of rush and hurry for the preparation of the contract. Another, and perhaps the chief cause, was the possibly natural attempt of the builder to obtain as large an amount as possible for so-called extra work, owing to a misreading or misunderstanding of the contract, but this was confined to the less reputable class of builder, and arose chiefly when the original contract was taken at a low figure. After the President had read a few notes on the subject an interesting discussion ensued, in which Messrs. Smith, Bryan, Green, James, La Trobe and Wood took part, and on the proposition of Mr. J. H. La Trobe, seconded by Mr. T. Nicholson, a hearty vote of thanks was accorded to the lecturer. Mr. Oatley, in acknowledging the vote, dealt with several questions arising out of the discussion.

The following resolution framed by the hon. secretary (Mr. H. Dare Bryan) was read by the President, seconded by Mr. R. C. James, and carried with acclamation :—"That this meeting of the Bristol Society of Architects learns with much gratification that one of its members, Mr. H. S. Lawson, has been accepted for the service of his Queen and country in South Africa ; the members present congratulate him on being appointed to command the local detachment of rifles, and on behalf of the Society wish him a successful participation in the campaign and a safe return home."

TESSERÆ.

Egyptian Hieroglyphics.

THE first author who mentions the writing of the Egyptians says they had two kinds of characters, one called sacred and the other popular, but he does not say that they had any affinity with each other. Diodorus Siculus mentions the same, with the addition that the first were peculiar to the priests and the other was taught to all. Concise as this is, it is all the information these authors give. The next is the celebrated passage in the works of Clemens Alexandrinus, in which the different kinds of writing are given with considerable precision. He says there were three kinds—the Epistolographic, the Hieratic or sacred, and, thirdly, the most complete of all, the Hieroglyphic, which he tells us is expressed by means of the first or initial element of words, that is, by reference to the initial sounds of words which denote these objects in the spoken language of the country. Upon this scanty foundation the most extraordinary theories have been built ; the six fol os of Kircher, according to his interpretation of the hieroglyphical inscriptions, which succeeded equally whether he began at the beginning, the middle, or at the end of the text, are found to be filled with the cabalistic science and strange fancies of a refined system of Dæmonism. The Abbé Pluche has discovered that they are all astronomical, or expressive of the doctrines connected with the science of astronomy and the division of time in the calendar; and the author of a work, entitled "De l'Etude des Hiéroglyphiques," published at Paris in 1812, found in the inscription on the temple at Dendera a translation of the 100th Psalm of David, a foreign language, which most likely the inhabitants of the country never understood. Count Palin has persuaded himself that the hymns of David are but Hebrew translations of the consecrated rolls of Egyptian papyrus. All these fantastic reveries have, however, given way to the system of Dr. Young, the invention of which has been disputed by M. Champollion. He followed the idea of Warburton that the hieroglyphic, or sacred character, was not so-called because peculiarly appropriated to sacred subjects, but that they constituted a written language applicable to all the purposes of life, that they were not used to represent things or ideas, but that they represented sounds or words, that they were alphabetical, and that they exhibited things or objects, the common names of which in the spoken language began with the sounds it was wished to express.

Egyptian and Greek Scales.

The Egyptian system of scale appears to have differed in this respect from that of the Greeks: that while the system of the latter was based upon the use of the lower diameter of the shaft of the column as the unit of multiplication and division of dimensions and parts, the Egyptian system approximated more closely to that system which painters usually adopt to enlarge or diminish their drawings, viz. covering a given space with lines forming squares like those of a chess-board, and then allotting to each of these various squares a specific portion of the subject to be represented. This system is admirably illustrated by incomplete works left upon the walls of various tombs at Thebes, but in none so well as in that discovered by Belzoni and named after him. On the walls of that tomb may be seen the setting out or squaring for the representation of colossal figures; and from the regularity with which leading parts of the figures correspond with the precise intersections of these squares, it is obvious that an arbitrary system existed whereby a certain number in height or breadth of the squares was allotted to definite representations of the human form. An erect figure was divided into nineteen squares in height, and a sitting figure into fifteen. The length of the foot corresponded with three squares, and the cubit also corresponded with three squares, the foot and the cubit, the latter especially, having always been regarded as a modulus of length from the most remote antiquity, as indicated to us by numerous allusions to that denomination of measurement in the Bible. There can be no manner of doubt that the Greeks adopted a similar system for their sculpture and for their architecture as well, and they carried out a system of subservience to dogmatic proportioning by means of their scales to a refinement of which we can scarcely have a conception. The eye alone of a spectator cannot fail in examining any fragment of Grecian architecture to be sensible of the beneficial influence of the exquisite delicacy with which every portion of surface of any structure was adjusted, so as to occupy an area in just relation to the surface of the whole.

The Wicar Collection, Lille.

The Public Museum at Lille contains a most precious collection of 1,200 original drawings, of which 197 are attributed to Michel Angelo, 3 to Leonardo da Vinci, 68 to Raphael, 13 to Masaccio, 6 to Andrea del Sarto, 9 to Bandinelli, 1 to Paolo Veronese, 1 to Perugino, 1 to Gian. Bellino, 8 to Annibale Carracci, 2 to Correggio, 17 to Carlo Dolci, 10 to Fra Bartolomeo, 15 to Francia, 8 to Guercino, 5 to Ghirlandajo, 3 to Giulio Romano, 1 to Palma, 5 to Parmegiano, 6 to Poussin, 2 to Tintoretto, 8 to Titian, 2 to Albert Dürer, 3 to Lucas de Leyde, 1 to Rembrandt and 1 to David. Many of these are apparently first sketches of pictures which have since acquired the highest reputation, and show the gradual steps by which the great masters progressively improved the rude embryos of their first thoughts; and in order to compare the original ideas with the finished works there are engravings of the pictures as completed. Some are in pencil, others in black or red chalk and several in bistre. To architects the most precious portion of the drawings is a series of 185 sketches of architectural subjects attributed to the pencil of Michel Angelo. They are now mounted in glazed frames, so arranged as to show both sides of the sheets, as they originally were in a sketch-book, and with drawings on both sides, the size 8 inches by 5' inches. They are generally drawn in bistre, and the plans tinted with a light shade of that colour. To some there are dimensions; others have the words "a dischretione e no e misurato"; sometimes the word "anticho" is added. They consist of plans, sections, details and some few elevations of various ancient and modern buildings. Among the former are the arches of Titus, Septimius Severus, Janus and Constantine, at Rome; of Augustus at Pola, in Istria; a plan and details of the Colisseum. Some seem to be plans of ædicula or tombs like those then abounding in the Campagna. There is a sketch in pencil of the drum under the cupola of St. Peter's at Rome as designed and executed by Michel Angelo, with the abutment piers and coupled engaged columns instead of the continuous colonnade of previous designs, whether by Bramante or San Gallo; and above are some loose lines in pencil indicating the dome, though not very definitely, and more like the Pantheon than St. Peter's. There are several drawings of the parts of the church of St. Pietro in Montorio which was designed and built by Bramante, the cotemporary of Michel Angelo and uncle of Raphael; and many sketches of the Baptistery at Florence, of the Lantern of St. Lorenzo, a plan of the Chiesa degli Angeli by Brunelleschi and other buildings in that city, and particularly of the Medicean Library, designed and almost entirely executed by Michel Angelo, but completed by Vasari. There are sketches of vases, arabesques, pulpits and groups of trophies of ancient Roman armour.

The Language of Art.

To a man who is used to look at nature, pictures or drawings with a painter's eye, the slightest hint on the slightest inspection conveys a perfect and intelligible meaning, just as the slightest sound, with the most negligent articulation, conveys meaning to an ear that is well acquainted with the language of the speaker. But to a person little versed in that language such a sound is quite unintelligible; he must have every word pronounced distinctly and articulately. Then again, as these slight hints and flurried articulations have often a grace and spirit in language which is lost when word sare distinctly pronounced, so many of these slight and expressive touches, both in art and in nature, give most pleasure to those who are thoroughly versed in the language. This may perhaps in some degree account for the plainly marked distinctions in improvement, for, as in order to convey any idea to a man unused to a language in one sense, you must mark every word, so to a man unused to it in another sense, you must mark every object, must cut sharp lines, must whiten, redden, blacken, &c.

Charlemagne and Architecture.

It was that great ruler Charlemagne who first called architecture out of its sleep. Filled with his large conception of an Empire of the West, the heir to the greatness of Rome, his mind turned, as was natural, to the restoration of Gallo-Roman splendour. To this end he called around him artists and skilled workmen from the south and east. The Roman basilica was taken as the model of the new churches which, under his encouragement and with his aid, the monastic communities began to raise through the land; and thus Roman architecture became the starting-point of the new development of the art of building. Nevertheless, other foreign influences became early active through contact, direct or indirect, with other races. An illustration of the profound modifications which such contact could bring about may be found in a comparison, for example, between the sculptured façade of the church of St. Gilles in Provence, a region much under Roman and Greek influences, and the church of St. Front at Périgueux. The latter church was begun, according to Viollet le Duc, towards the end of the tenth century, a few years after St. Mark's in Venice, and practically on the same plan; the former is of much later date, yet the southern example is still strongly impregnated with classic tradition, whilst the Acquitanian church, with its five domes, is wholly Byzantine in its general character. Here the inspiration is derived undoubtedly from the Venetians, who, at an early period, had established a trade route through France to the western seas and had an important mart at Limoges; and it is an interesting fact that during the eleventh and twelfth centuries it is in Acquitania alone—that is, in the province within more immediate touch of Venetian influence—that domical churches were built. Now, both these instances, illustrating as they do in a marked manner the receptivity of the Gallic intelligence, exhibit also conspicuously the freedom with which it fashioned foreign elements to its uses. This freedom is almost startlingly displayed at St. Gilles, where classic material is handled with an audacity which, if leading in some points to an almost barbaric incongruity, produces a result in the last degree impressive and stimulating.

Roof Coverings.

The surface of slanting roofs must be nearly flat; decoration, therefore, is difficult, and though it is rough, when compared with the surface of columns or of hewn stone in general it has no effect of light and shadow, it has also a more unfinished look than any other part; a very material circumstance in whatever is to be combined with the highly-finished forms and ornaments of architecture. It remains to be considered by what means these defects may be diminished. Few roofs of ancient buildings remain; in them, however, a peculiar attention seems to have been paid both to regularity of construction and to light and shadow. The Tower of the Winds at Athens is covered with slabs of marble, in each of which the horizontal edge projects so much as to give a strong shade, while the vertical joints are so elevated as to form high ribs which break the uniform surface in a very beautiful manner. The Lanthorn of Demosthenes is roofed in the form of laurel leaves, which, in a different way, have the same effect. The ancient mode of tiling by semicircular tiles laid within each other gave a sort of fluted look to the roof, and the old flat tiles of the lower empire, which were joined with a high rib something in the way of the Temple of the Winds, had the same effect of light and shadow. Even the ridge and hip-rolls of our roofs diminish in some degree the bareness of their appearance, and our pantiles, though much less picturesque than the hollow tiles of the ancients, are, perhaps, in point of form, the best material in use for common covering. The richness occasioned by these variations from uniformity of surface is also very striking in some of the old leaded roofs of our churches, where the sheets are small and the rolls large; but it is still more so when, as it sometimes happens, a part of the roof is repaired with slate, while the rest remains in its original state. The ancients seem to have had it in view to give both lightness and richness to their roofs by a sort of lacing to the edges of them; the ridges as well as the eaves were decorated with a sort of open work of small knobs or projections, and the same kind of ornament yet remains with peculiarly elegant effect in many of our old churches and houses.

Some London Porticoes.

In the front of the Mansion House we see a Corinthian portico raised upon a basement of rusticated piers and arches. This certainly produces a very inharmonious effect, the latter features being of too ordinary a character to suit with the grace and dignity of the Corinthian order. There is in this composition another very glaring defect, viz. the portico leading to nothing, for the hall to which it leads from the street instead of being of ample dimensions with the portico is low and contracted. A stately portico should not lead to mere chambers when it is necessary to have recourse to such economy in the interior; it is ostentation to apply so magnificent a feature as the portico externally. The very effect of a portico is to exalt the ideas of the spectator, which become suddenly depressed when he least expects it if it lead not to some feature of corresponding grandeur. Like persons, buildings should not promise more than they perform, and generally the ideas raised by the external appearance of a building should be realised in its interior. In the Corinthian portico of St. George's, Hanover Square, the order has been well attended to, and much vigour is produced by the columns being comparatively closely placed; the centre opening is somewhat wider than the rest, which is very admissible. There is something very noble about the portico of St. George's, Bloomsbury; the order is boldly treated, and the deep tone of shadow obtained by the great projection from the line of wall gives to the front columns a fine relief; but it is difficult to comprehend how a pupil of Sir C. Wren could introduce columns attached to the wall and corresponding to those in front, thereby repeating in the background the front part of the picture, which is surely as absurd in architecture as it would be deemed in painting.

Early Byzantine Churches.

The earliest Greek churches have a very simple front, a large mass bounded at top by a horizontal line, without any pediment to indicate the inclination of the roof, carpentry not being used in Byzantine architecture, as cupolas and terraces only were used to cover in the building. Eusebius, describing the basilica of the Apostles, says that rails cut out of gilt bronze were used to decorate the upper terrace, called the solarium. It may be supposed from that, that the faces of the building were surmounted with horizontal cornices. The churches of Sergius and Bacchus, of Santa Sophia, and of the Panagia Lycodimo are all of the same kind; the square form being apparently preserved as late as the eighth and ninth centuries. These Byzantine churches are badly crowned, the upper entablature being composed only of a few mouldings, in which bricks are so placed as to form salient angles, and through which gutters are cut at different distances to carry off the water from the terraces or domes. The first floor is generally marked on the front by a certain number of windows lighting the gyneceum. In the church of Santa Sophia these windows are of large dimensions, semicircular, and divided into three parts by two columns, which hold thin slabs or plates of stone, pierced with holes to let in the light. Under the windows of the first storey, or women's gallery, are placed the doors giving admission to the narthex, or porch. These doors are generally formed of lintels and door posts, ornamented with elaborate mouldings much in the style of the antique. Over the lintel a full arch, sometimes of stone and sometimes of brick, protects the door from the pressure of the superincumbent structure. The narthex was the place devoted to the catechumens, but in some of the later edifices it was used as a gyneceum, and thus the men entered the church by the north and south doors (*Notiomeros*, *Boreiomeros*). The early Byzantine basilicas have only a single dome, as in that of Sergius and Bacchus at Constantinople. Santa Sophia, in the same city, has a large central dome, and two semi-cupolas which cover the two curved portions situated to the east and west of the nave. These primitive domes are generally very heavy and cumbrous in form, differing from those which were erected later and elevated on tambours. A great number of small arched windows, very near each other, are cut through the base of the domes, and serve to light the interior. The effect of the light is so brilliant that the cupola seems as it were isolated from the building. The cupola of Santa Sophia, upwards of 120 feet in diameter, not being properly poised over the four main piers, in consequence of gathering the spandrels into too small a compass, exhibited, in less than twenty-five years, symptoms of approaching downfall, and the piers were accordingly strengthened on the outside.

GENERAL.

Hogarth's Picture, *The Gate of Calais*, has been bequeathed by the Duke of Westminster to the National Gallery.

The Government Bill for facilitating the erection of workmen's dwellings will propose the granting of powers to local authorities to purchase land outside the limits of their jurisdiction, and will also extend the time for the repayments of the loans obtained for building.

The Congress of the Sanitary Institute, which was to be held in Nottingham next autumn, has been postponed. The responsibilities which have been placed upon the country in connection with the war in South Africa have made it difficult to assure the success of the meeting.

Countess Cadogan formally opened the annual exhibition of the Water-Colour Society of Ireland at the Leinster Hall, Dublin, on Tuesday last.

M. Maximin Deloche, the French archæologist, has died in Paris in his eighty-third year.

The Late Major William Joseph Myers has left his showcase at Kytes and a selection from his Egyptian and other antiquities to the headmaster of Eton College. His loan collections of Arab glass and wall tiles now at the Victoria and Albert Museum are to be offered to the Government for 3,000*l.* and 1,000*l.* respectively.

The Colossal Group by Elias Robert, *France Crowning Industry and the Arts*, which surmounted the Palace of Industry in the Champs-Elysées, is about to be set up in the park of St. Cloud.

The Late Sir Henry Tate has bequeathed to Mr. Sidney R. T. Smith, architect, 500*l.*; to Mr. Charles Holroyd, of the National Gallery of British Art, 500*l.*; to Mr. George E. Ambrose, clerk in the National Gallery, 200*l.*; to Mr. Frank J. Burgoyne, of the Tate Library at Brixton, 200*l.*; and to Mr. Thomas Everatt, of the Tate Library at Streatham, 200*l.*

The Committee have decided that a bust of the late Sir George Grey and not a statue, as was originally proposed, shall be placed in St. Paul's Cathedral.

The Lord Mayor of Sheffield has commissioned Mr. Onslow Ford, R.A., to execute a marble bust of the Queen for the new Town Hall, which Her Majesty opened in 1897.

Dr. Charles Waldstein, Slade Professor of Fine Art, Cambridge University, will, on Thursday next, deliver the first of a course of three lectures at the Royal Institution on "Recent Excavations at the Argive Heraeum, Greece."

The Brighton Town Council have decided to carry out the plans by the borough surveyor for the alterations to the Library, Museum and Art Gallery approved in 1894.

An Exhibition of prints, drawings and documents relating to Liverpool will be opened to-morrow in the Brown reading-room of the Reference Library in that city.

The "Railway Station," by Mr. Frith, R.A., was sold on Saturday for 300 guineas, the same price it realised at the Cosens sale in 1890. His "Coming of Age" was also sold for 350 guineas.

Furness Abbey will be the subject of a paper by Mr. W. St. John Hope in the next number of the Westmoreland and Cumberland Antiquarian Society's "Transactions." He has discovered traces of the earlier buildings on the site, and is able to prepare a plan of the abbey when it was Savignian, before it became Cistercian.

Milton's Cottage at Chalfont now contains a large collection of books relating to the poet. The trustees appointed are Mr. C. T. Ritchie, M.P., the Rev. P. W. Phipps and the Rev. G. R. Sandars.

Mr. John Lanyon, architect, Belfast, died at Teneriffe on the 13th inst. He was the eldest son of the late Sir Charles Lanyon, and a member of the firm of Lanyon, Lynn & Lanyon.

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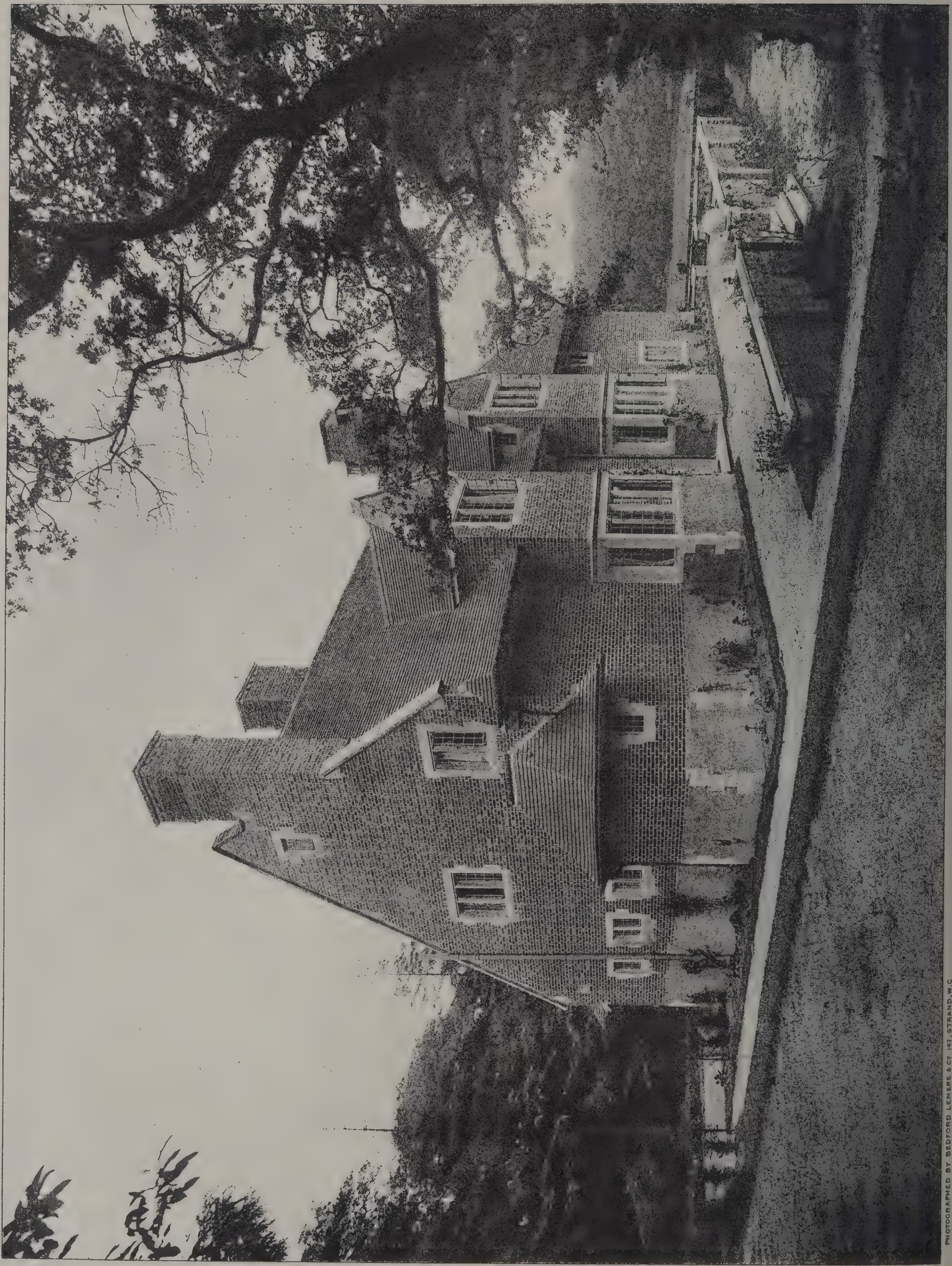

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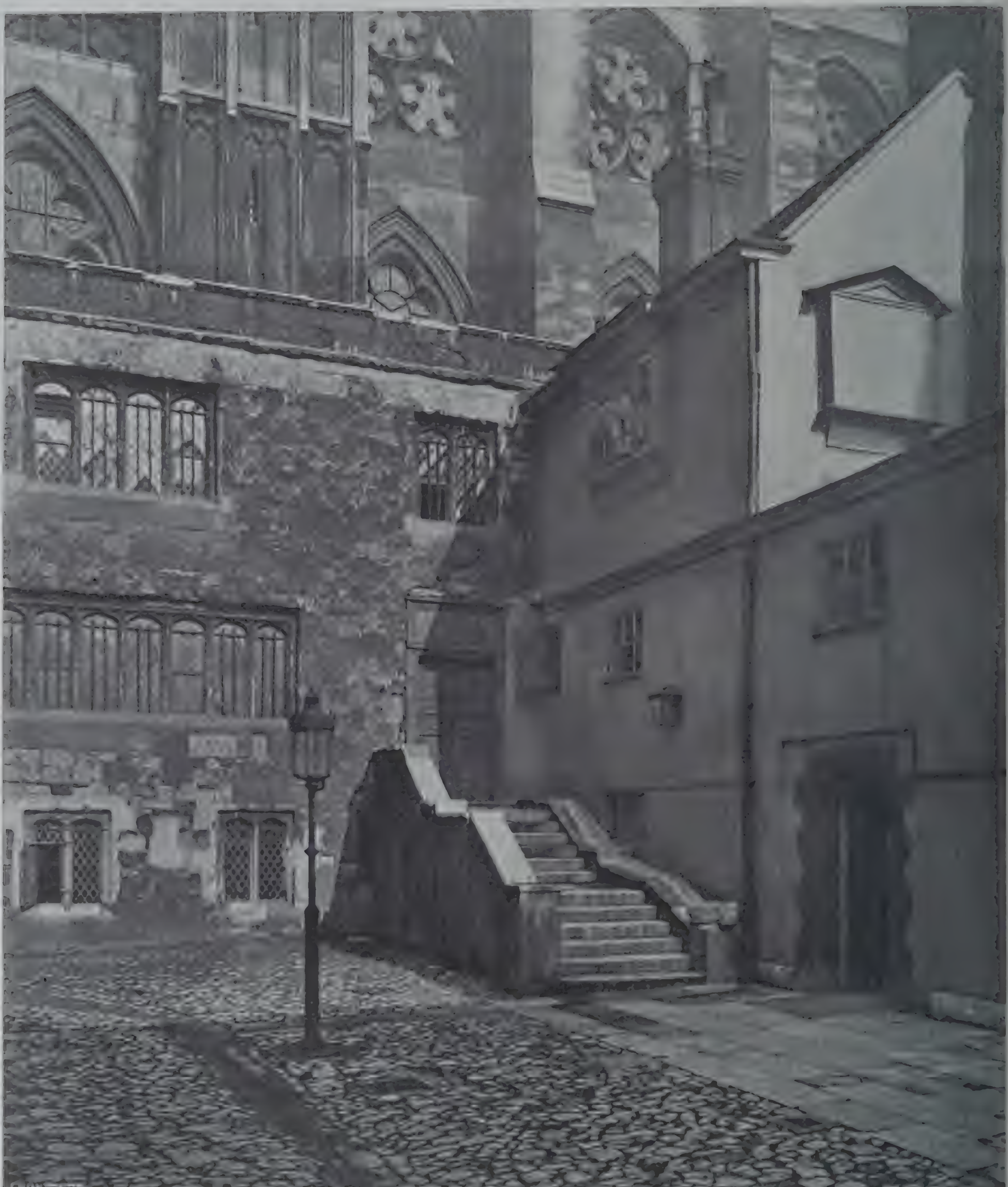

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WESTMINSTER ABBEY, No. 21.

ABBOT'S COURTYARD.

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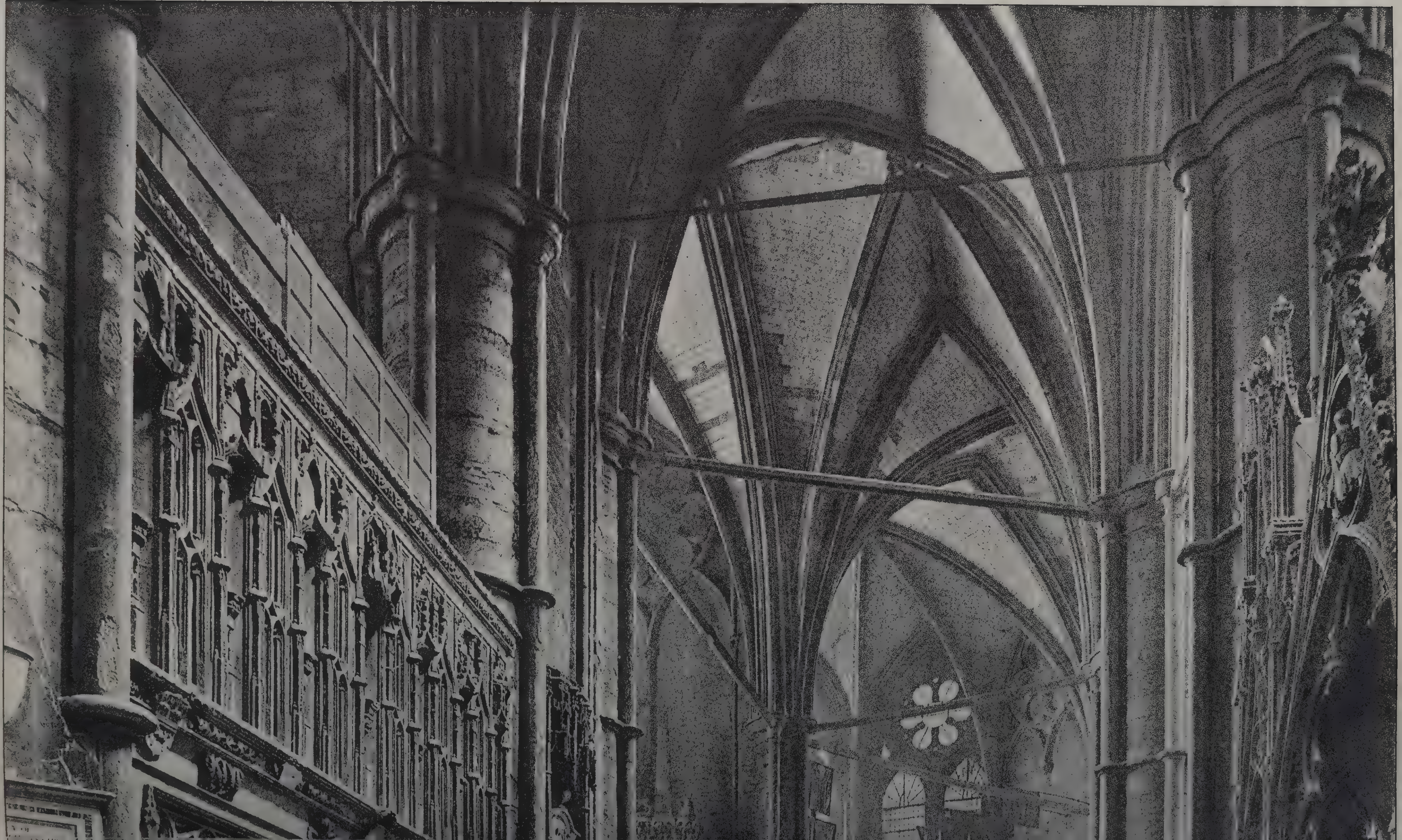

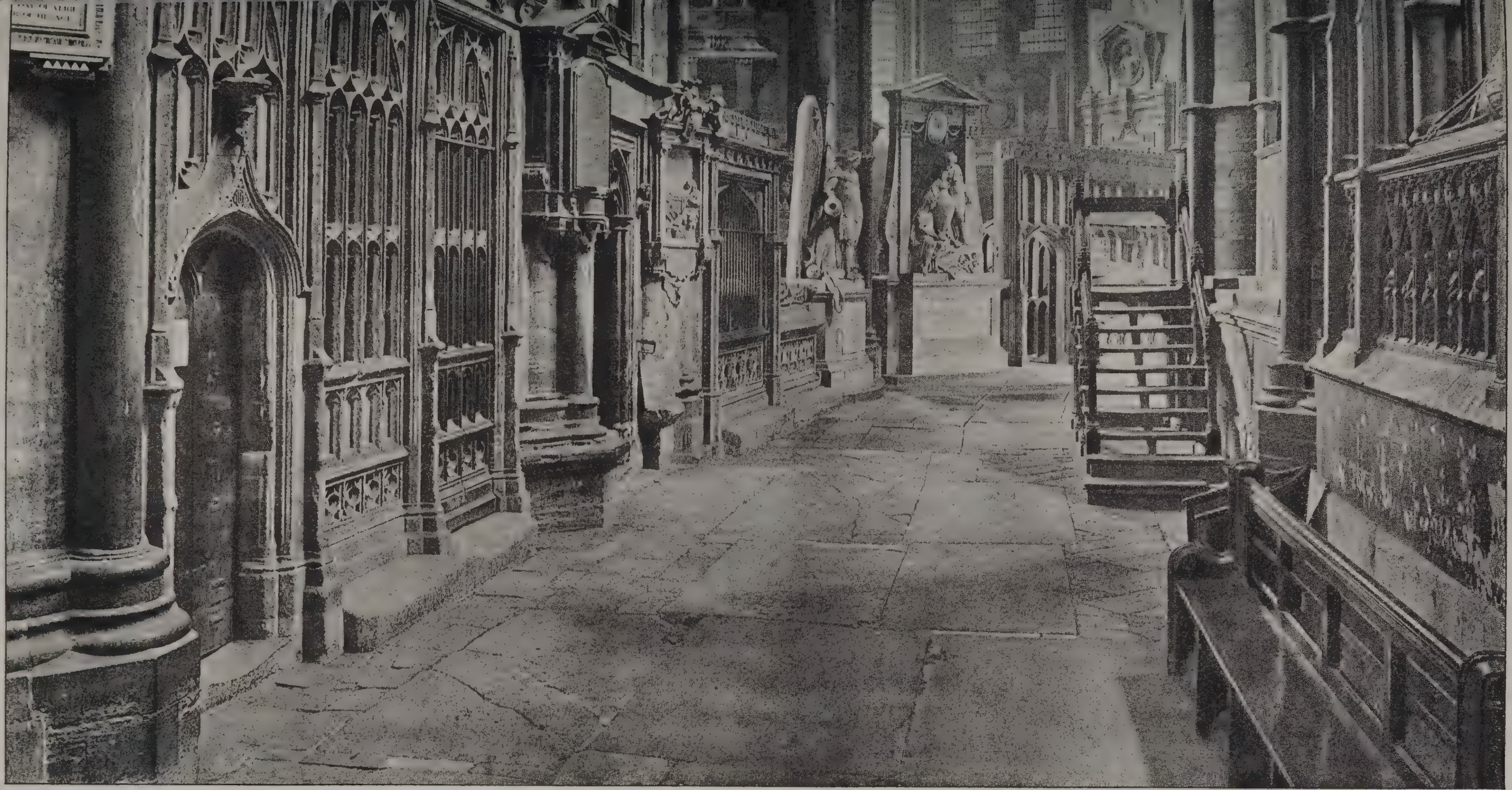

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WESTMINSTER ABBEY, No. 20.
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Proposed Public Library,
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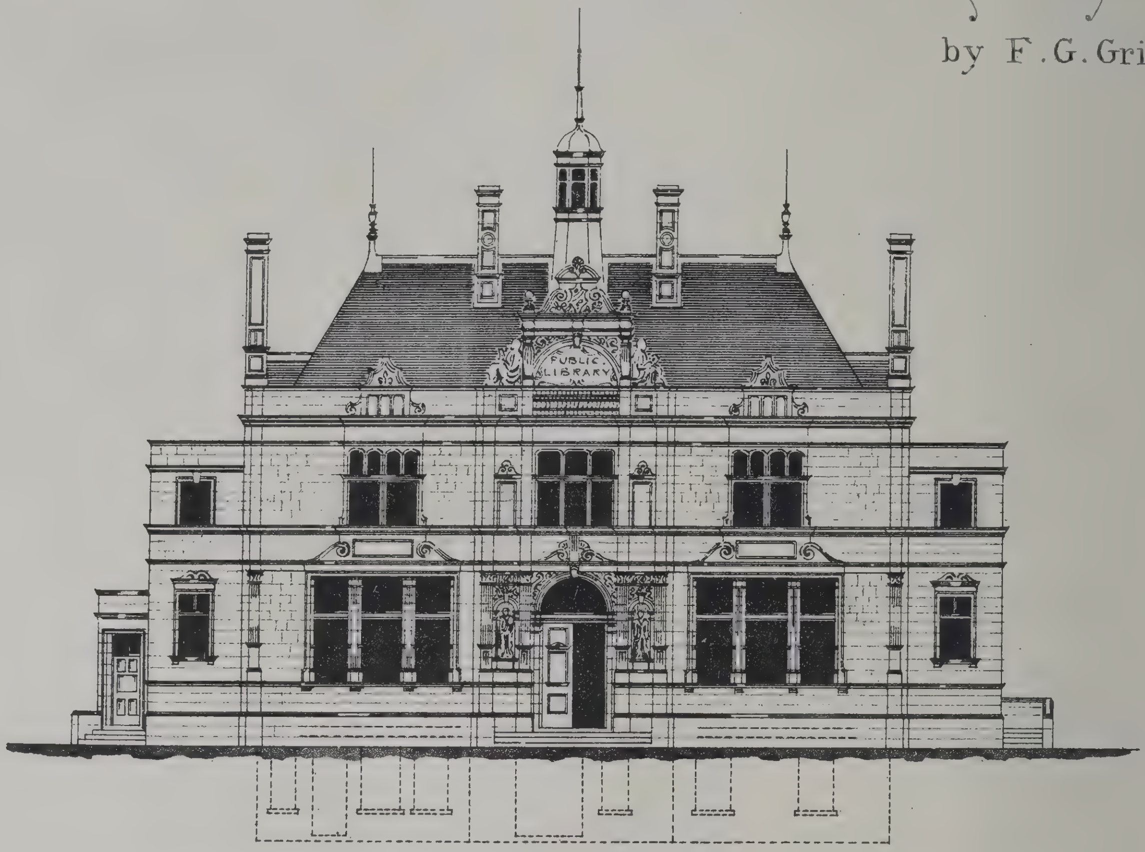

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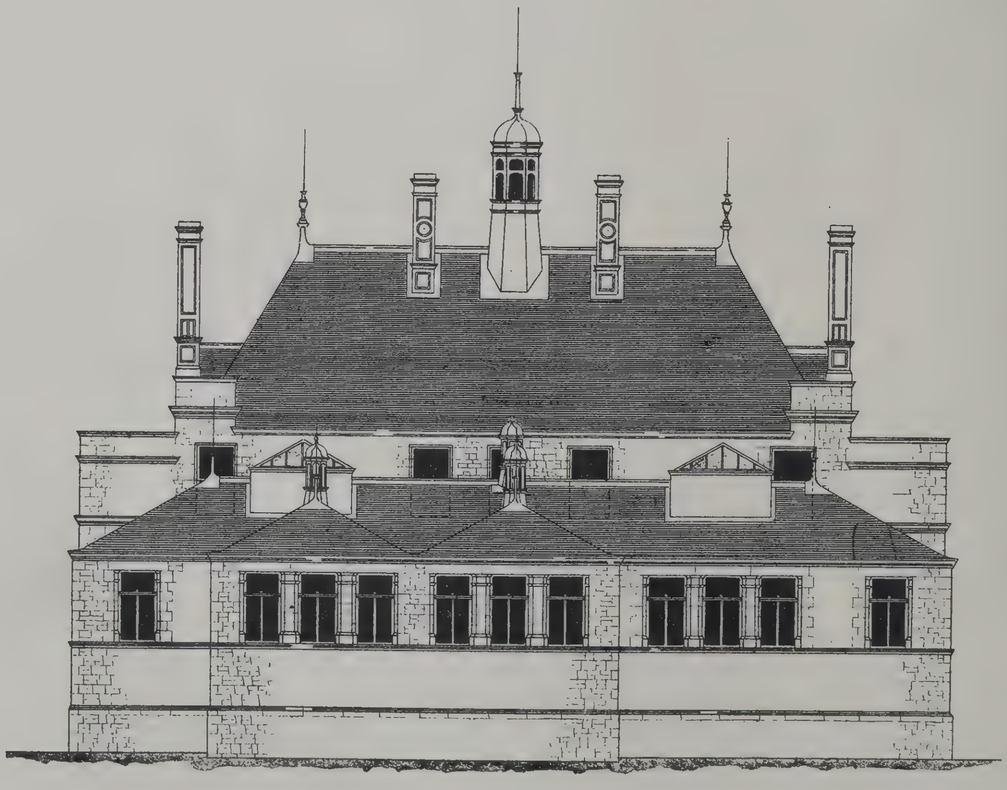

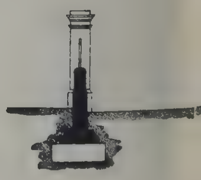

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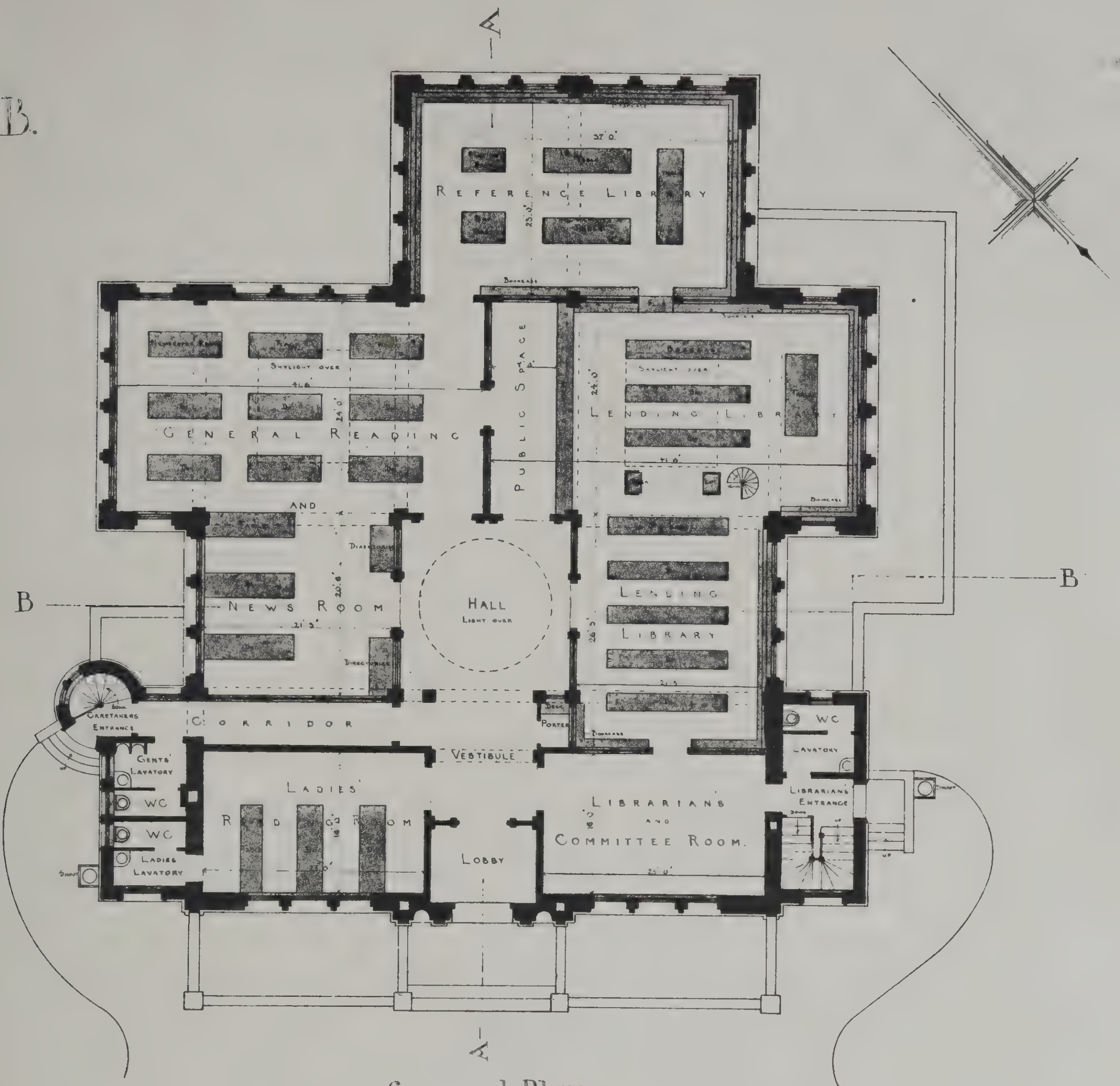
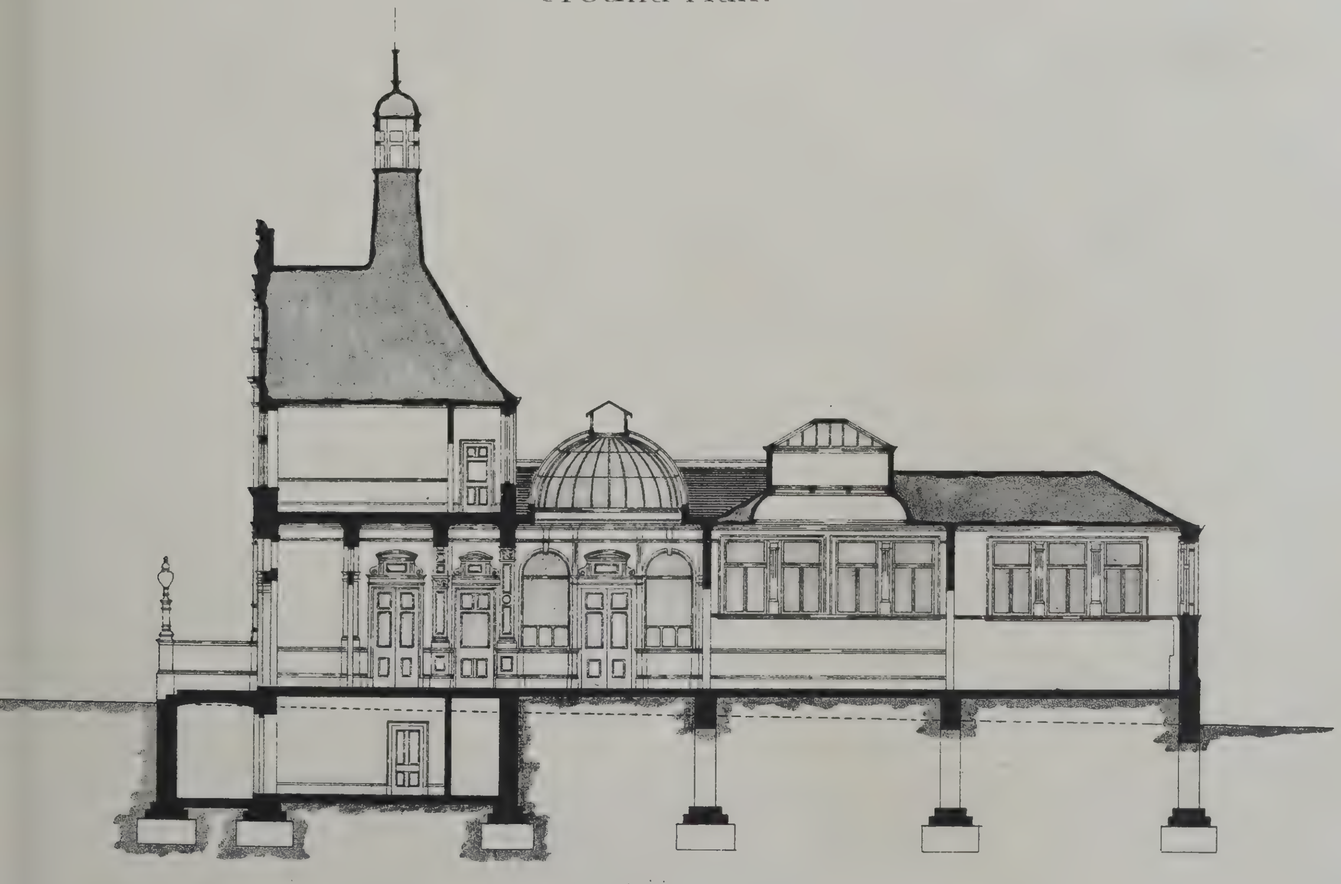


Ground Plan.



Section A.A.

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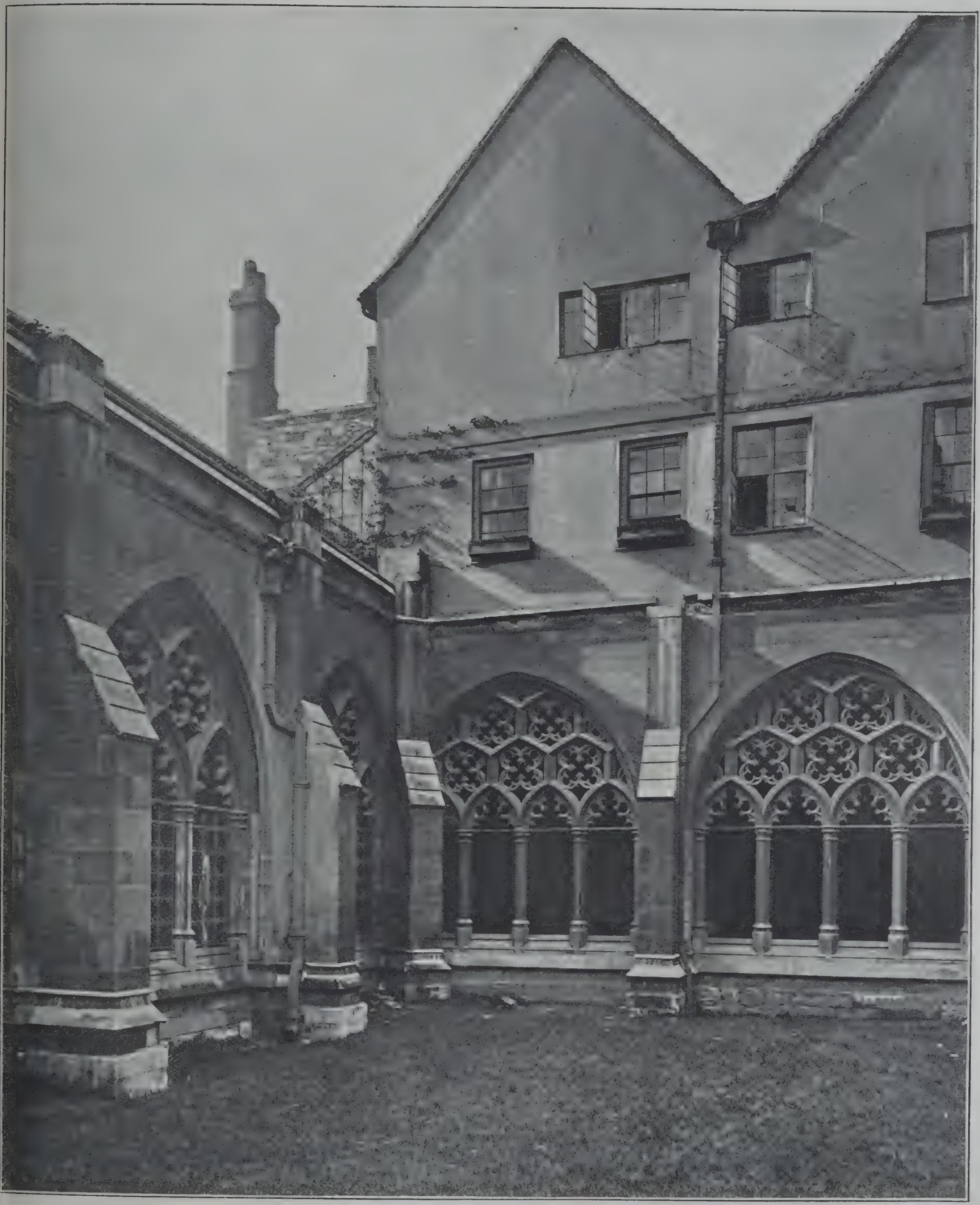

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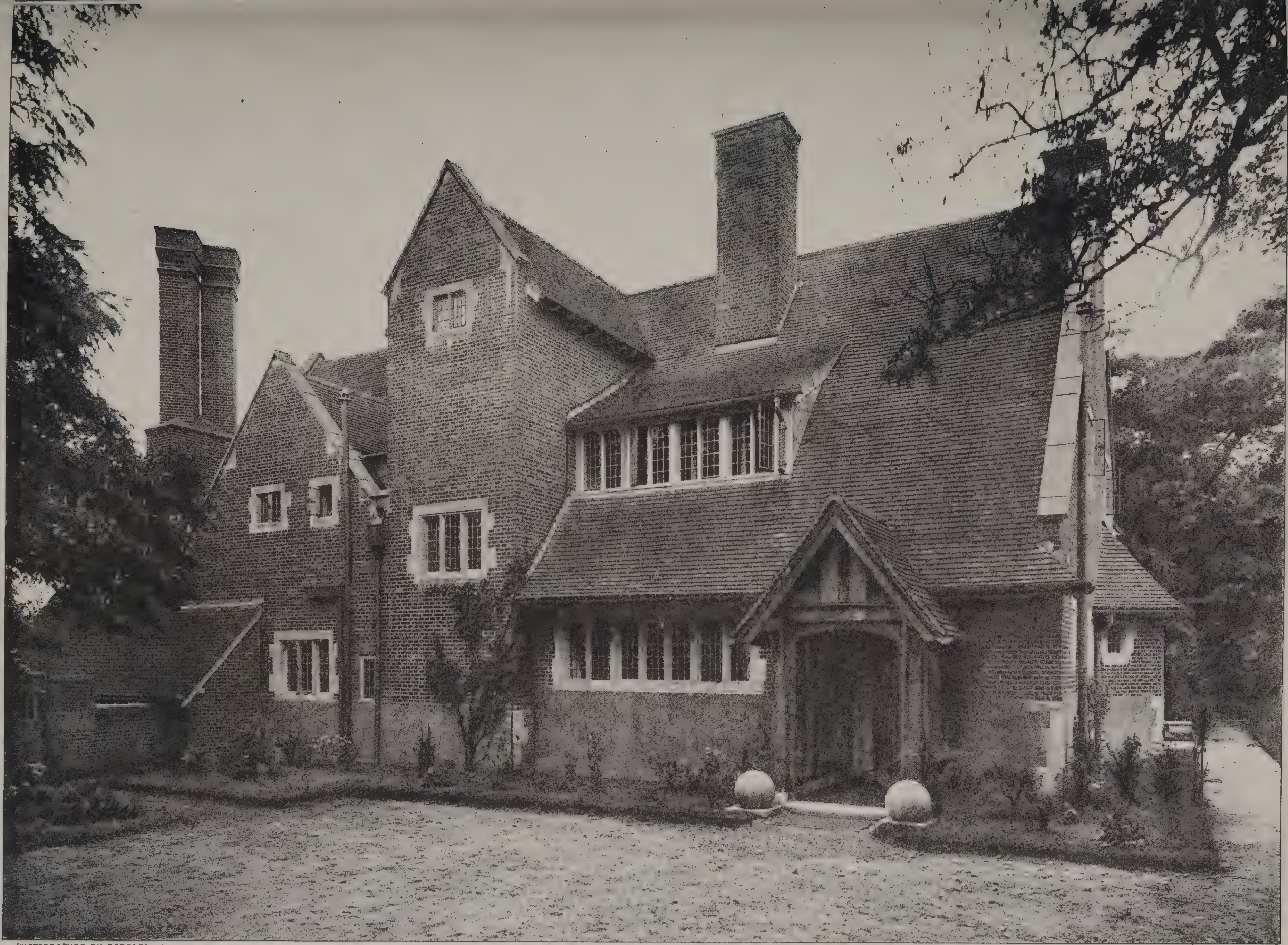
DEANERY AND CORNER OF CLOISTERS.



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"WOODGATE," SUTTON COLDFIELD: ENTRANCE FRONT.

W. H. BIOLAKE M.A., Architect.

The Architect.

THE WEEK.

Last week we noticed a case under the Workmen's Compensation Act in which sub-contractors who were undertaking the painting of a theatre were held to be responsible for paying compensation to the representative of a workman who had been killed. It was laid down that if several persons were engaged in carrying out several parts of a building each of them was an undertaker within the meaning of the Act. A more recent case reveals there is a great difference whether a sub-contract is made with a general contractor or with the building owners. Mr. Isaac Gould, a builder, contracted to erect an electrical station. He entered into a contract with one Butler to execute the painting; the latter employed a man named Henry Cass. Cass was painting the girders of the roof when one of the planks of the scaffolding broke, and he and another man were killed. Mrs. Cass, the widow, claimed compensation from Butler. The Leeds County Court judge held that Butler was an undertaker and that painting was construction; He awarded 235*l.* 6*s.* Butler appealed, and it was argued on his behalf that the case was unlike Mason *v.* A. R. Dean, Limited, which we noticed last week, inasmuch that in that case different contractors agreed with the building owner for separate parts of the construction, while in the present case there was only one contractor, who sub-contracted with the appellant for painting. The Court held that Butler did not come within the definition of an undertaker. On that account the appeal was allowed. The judgment determined the case of the second man, Crowther, who was killed with Cass. Their lordships said that whether the applicants would have succeeded if they had sued the contractor depended on whether the station was being constructed by means of scaffolding when the accident occurred. The conclusion to be drawn is that if a contractor enters into sub-contracts he has a chance of escaping liability. As a matter of course the demand is first made on the immediate employer, and the majority of workmen, or their representatives, cannot tell whether, if he be a sub-contractor, his contract was made with the building owner.

From time to time Mr. James Orrock has generously lent paintings and other works of art from his valuable collection for the purposes of exhibition. He has now presented no less than twenty-seven oil-paintings and water-colour drawings to the South Kensington Museum. They comprise works by George Chambers, W. J. Müller, George Dodgson, Frederick Tayler, H. G. Hine, Charles Green, Sir James Linton, John Fulleylove and others, also two oil-paintings, *The Wayfarers*, by T. Graham, and *The Thames—Evening*, by John R. Reid, and two smaller ones by John Fulleylove. These gifts are supplemental to the following works, which have been already presented by Mr. Orrock:—An oil-painting by George Barret, jun., another by De Loutherbourg, and a third by Henry Dawson, besides some drawings by David Cox and Samuel Prout. The Museum has also acquired under the will of the late Henry Vaughan two fine pictures by Constable, several drawings by Turner, and other objects. The collections have been further enriched by a water-colour drawing by the late T. B. Hardy, given by Mr. Alexander T. Hollingsworth, and a collection consisting of eighteenth-century furniture, costumes, lace, English cut-glass, nine miniature portraits—several being of members of the St. Aubyn family—and other objects, given by the late Mr. Henry Barrett Lennard. During the progress of the building operations the entrance to the building will be in Exhibition Road, as the entrance by Cromwell Road has been closed.

Although the new arrangements for conducting the training school at South Kensington, or, as it is now called, the Royal College of Art, have been announced, there seems to be some doubt about their finality. The following Treasury minute on the subject has been laid upon the table of the House of Commons:—"My lords are pleased to declare that for the due and efficient discharge of the duties of the post of head-master of the Royal College of Art professional or other peculiar qualifications, not ordinarily to be acquired in the public service, are required, and that it is for the interest of the public that persons should be appointed thereto at an age exceeding that at which public service ordinarily begins. They are further pleased to direct that the head-master of the Royal College of Art may be entitled to superannuation without any addition of years under the above-mentioned section, though he may not hold his appointment directly from the Crown, and may not have entered the service with a certificate from the Civil Service Commissioners." From this it would appear there is still a belief that for so important an office as the head-mastership an outsider would be preferable to a master who had no other experience than could be derived from acquaintance with the departmental curriculum. Can the discovery be contemplated of a master like Mr. Walter Crane, and how will that affect the recent changes? The uncertainty which still prevails on the subject is not satisfactory, and should be cleared up without delay. The latest issue of the Calendar announces that the staff of the college will in the future consist of a council of four members, experts in their respective branches of art, a head-master, four instructors, four assistant instructors, various lecturers, a registrar, a clerk and a matron.

The excavations which M. Gauckler is conducting on the site of Carthage for the French Government continue to produce interesting objects. Although in the majority of them the influence of Egyptian art is to be seen, there is also evidence of a Greek spirit in some of the details. One very remarkable object is a masque of a woman's face, which recalls the style of the most ancient statues which have been discovered in Athens. The site of the excavations is an ancient cemetery. One of the tombs lately opened contained five examples of jewellery. One was a band covered with hieroglyphics, another was a signet ring bearing the sign of a prince; there was also a sword and several ornaments. Examples have also been found of enamels, ostrich eggs which have been painted or engraved, collars of crystals and of emeralds, &c. If the excavations continue to be so productive, we may expect to see illustrations of "Salammbô" which will be archæologically correct.

There will be general regret among artists on learning the death of William Stott, of Oldham. He was one of the few English painters whose works find favour in the eyes of Continental critics. His success abroad was in a measure owing to his education at the Ecole des Beaux-Arts, where he came under the influence of M. Gérôme. But his style did not recall that of the painter of ancient Greek and Roman scenes, unless in admiration for the nude. William Stott's subjects were generally modern, and he preferred to represent his figures in a pleasant landscape or by the sea shore. He was born in Oldham in 1857, and studied in the local art school. But his powers were not really awakened until he migrated to Paris. In 1882 he won a medal by his *Bathers*, in which the boys were truly boyish. In England there was some hesitation about accepting his treatment as satisfactory. A picture by him was seen at a glance to differ from its neighbours on the wall of an exhibition, but it was doubtful whether the peculiarities were favourable to profitable investment—a consideration which often determines the purchase of pictures. But if his reputation did not advance by long strides, at least it did not retrograde, and his admirers were sanguine his merits would soon be generally recognised. A recent illness made a sea trip necessary, but unhappily he was not destined to come back to England, unless as a corpse. He was buried at Ravenglass on Wednesday.

WILLIAM BUTTERFIELD.

It might be supposed that the venerable architect who passed from this life on Friday last had taken for his device the lines of the French poet—

Ami, cache ta vie, et répand ton esprit!
Sois petit comme source et sois grand comme fleuve.

His works are spread throughout England, and they have been subjected to the sharpest criticism. At one time it seemed to be absolutely necessary to praise or to blame them in unmeasured terms. But the man about whom so much was spoken and printed was unknown to his contemporaries. If he belonged to some Mediæval order of monks who devoted themselves to the designing of church buildings and who spent their days over drawing-boards in cells, he could not be more of a recluse. Nature had made him shy and sensitive, qualities which are not ill-adapted for an artist. There was, however, nothing morose about him. He followed his own way because it never interfered with his vocation, but he did not believe he was superior to those who prefer to carry on their duties, as it were, under the eyes of the public. Unfortunately he was able to find evidence enough to convince him that he was bound to keep aloof, for his ideas concerning architecture did not correspond with those of his contemporaries. When he found Sir William Tite, who was the official head of the profession, declaring that the church of All Saints in Margaret Street was only a "costly folly," could William Butterfield believe that the architects who, like himself, believed in the Gothic style, would welcome him among them? Tite's words might be excused, for he was a critic who could not be said to be inspired by the Mediæval spirit, and to consider a church as if it were a financial speculation, although characteristic of the man and his method, was hardly the proper way to judge of a work of art. Harder to bear were the sneers about "the streaky bacon style," which were the reward of the endeavours of William Butterfield to avoid monotony in brick surfaces and to introduce colour. Is it to be wondered at if he allowed his natural disposition to have the fullest scope, and concealed himself more and more from all but a chosen few?

Not many could afford to follow his course. In an age when there is so much competition an architect is compelled to draw attention to himself, and for that purpose must employ other means than the buildings which he designs. William Butterfield's manner of acting was not, however, unsuited to the times when he first became known as an ecclesiastical architect. In the forties, when the Cambridge Camden Society attained a dominant power in this country, it was understood that the members should practise repression of themselves in order to promote the aims of the Society. Every member was supposed to have attached himself "not from curiosity or fancy or caprice, or mere personal gratification, but from a hearty wish to join in the good work of restoring God's temples to their ancient honours, and of raising from the dust the mighty works of an age long since passed away." The zeal with which William Butterfield entered into the spirit of the Cambridge Camden may be judged from a report which was presented to the Society in 1843. It says:—

> The attention of your committee has long been occupied with the arrangement of a scheme by which applicants might be supplied with church plate and ornaments of correct ecclesiastical design They are happy to be able to announce that they have now entered into arrangements with a gentleman of much taste and skill, Mr. W. Butterfield, of 4 Adam Street, Adelphi, London. The secretaries will receive any orders for church plate or ornaments, and Mr. Butterfield kindly agrees to undertake the practical superintendence of the execution of sacred vessels or other ecclesiastical furniture from designs which shall have been approved of by our Society. It will be his object to select artists who in their respective branches of art will execute the work entrusted to them in a right spirit. It is hoped that encouragement will be given to this scheme by all interested in the propriety and decency of church furniture. It is certain that in no branch of ecclesiastical art has there been found so great a want of correct patterns and of competent superintendence, and the committee have reason to think that the establishment of any plan like that above indicated will supply a want very extensively felt amongst the parochial clergy.

Mr. Butterfield's name was often mentioned in the church news of that time as the architect for churches or for the decoration of them, and for schools. Evidently he fell into the ways of the Camdenites and sought after simplicity rather than a costly ostentation. His position can be judged from the circumstance that he received the commission to re-erect St. Augustine's College at Canterbury. The remains of the old abbey were divided among several poor owners who utilised them for unworthy uses. The north-western gateway and a group of buildings adjoining it formed a brewery tap, and within the precincts were tea-gardens, smoking booths and a fives-court. The architect was expected to keep in view the ancient arrangements, and, if possible, to use remains of the masonry in order to keep up the relation between past and present. Funds were also limited. The rooms were small, and those for the students were without fireplaces. There was consequently no need of chimneys, and the long line of roofs without any break could only be pleasing to those who considered that logic should prevail above all other considerations in architecture. The college was, however, a great experiment, and the connection of the modern English Church with St. Augustine's Church through the use of the site was accepted as a memorable triumph.

In those days Beresford Hope was a power in the ecclesiastical organisation of England. When he selected William Butterfield for the new metropolitan church of All Saints, which was to be erected near Oxford Street, it was made evident to all that the architect was an experimentalist who was sufficiently venturesome to attempt innovation when an occasion offered to depart from precedents. Unlike the Canterbury College, it was accessible to all the world, and as it was novel it came in for a vast variety of criticism. The combinations of red and black brick with Caen stone, marble, alabaster, granite, mosaics and patterns in dark cements were not approved by many judges. The choir screen and Dyce's frescoes were also unsatisfactory to some critics. It was evident, however, there was much which was startling in the treatment, although from the suspension of the works for a rather long period, which enabled the architect's ideas to be utilised in other buildings, the peculiarities were not so marked as they must have appeared at an earlier time. All Saints was opened in 1859. Four years afterwards another remarkable church by Butterfield—St. Alban's, near Holborn—was completed. This building was experimental in more senses than one. At the present time it seems to be completely enclosed by mean houses and manufactories. But when it was erected the conditions of the site were still more unattractive, for we now can have views of the church which were not possible when the building was opened. That in such a position so fine and costly a work should be raised is most creditable to Mr. J. G. Hubbard, the founder, and it reveals the spirit of the architect and his regard for the old traditions by which a church was made beautiful in order to be worthy of its use, although it could not be visible or appreciated by all people.

The churches of All Saints and St. Alban's are the principal works by Butterfield to be seen in London. He was also the architect for the church of St. Augustine, Queen's Gate. In the towns around London are several of his works. At Weybridge there is the church of St. Michael and All Angels, which was erected in 1874. It is of red brick and rather severe in appearance, but the interior is more attractive—a contrast he often employed, and which was suggestive of his own character. In Ashford is the church of St. Matthew, which is unusually high within. Butterfield was also the architect for the chapel at Fulham Palace, the outside of which appears simple, but within has a richness befitting its use. There is a large mosaic designed by the architect, representing the Adoration of the Shepherds. The church of St. John the Baptist, in High Barnet, was reconstructed by him, including a new tower of flint and stone arranged in squares. The church of St. John, Hammersmith, is another of his works. He also added to Tottenham Church. St. Matthias, Stoke Newington, finished in 1853, is by some considered to be the most striking and abnormal of all his churches.

The late Ewan Christian, who in church work was an admirable judge, described Butterfield as one of the quiet, studious, hard workers of the Revival, who did much to advance the knowledge and sound practice of their art. "In him," he said, "we must all recognise a true master of his craft—one who not only knows well the art he practises, but whose works from first to last, whether great or small, in the counties or in the cities, bear the uniform impress not only of the skilful design, but of the loving care with which it had been carried out." Mr. CHRISTIAN's criticism is, however, so generous, it deserves to be given on the present occasion more fully. In conclusion he said :—

> We may joyfully thank Mr. Butterfield for the dignified work of his early years, the graceful and beautiful spire and the vigorous yet sumptuous interior of his noble church of All Saints, Margaret Street; and lest I should weary you by a bare recital of his work, passing over many others, each possessed of the power and beautiful form of which he is so great a master; glancing only at the noble church of St. Alban—of the fine west front of which, as has been well remarked, there was lately an unlooked-for revelation—and the fine church of St. Augustine, South Kensington, I will stop at the great crowning work of his maturer years, the magnificent and richly finished chapel of Keble College, Oxford. In each and every one of these is seen, though with great variety of composition, the same noble conception of dignified form, the same careful study of every detail for producing general harmony of work, and while fully availing himself of the richness derivable from the subsidiary arts in choice stained-glass, mural painting or mosaics, the same powerful mastery which fuses the whole, and subordinates everything to the architect's design. While possessing as he does a profound knowledge of the works of the great architects of old, and availing himself of the numberless resources which they so copiously afford, Mr. Butterfield's genius has enabled him to work in a style peculiarly his own, never slavishly copying, but moulding in his own mind whatever he desired to employ in carrying out his work; and though opinions may, and will, differ on matters of taste, none can certainly deny that his works are those of a refined and cultivated gentleman, and a most able, original and accomplished architect.

The occasion on which the foregoing words were spoken was on the presentation of the gold medal of the Institute in 1884. The choice had fallen on Mr. BUTTERFIELD, but he said it would appear so inconsistent with the habits of his whole life publicly to receive it, that if that course were a necessity he must regretfully decline the distinction. It was therefore handed to Mr. PENROSE, who represented Mr. BUTTERFIELD for the occasion. The incident is characteristic, and by itself is enough to reveal to us the love of retirement which always animated him and which was unconquerable. An architect with that disposition might be supposed to be ill-adapted for practice. BUTTERFIELD was able to attract as many commissions as he cared to carry out. We suppose he sometimes lost opportunities, for strangers could easily believe he was indifferent to practice. Apparently, however, he attained the measure of success which he desired, and it gave him little concern whether the world believed him to be successful or the reverse. That a man with so unworldly, or as some would say, with so unpractical a disposition could gain reputation as an architect in our times, speaks well for his manner of conducting business. His buildings are proofs of the desire on the part of contractors to carry out his wishes, and there are no cases in the Law Lists to show that unjust demands were made in the expectation that he would shrink from defending a client's interest, and, indeed, it was only necessary to meet him to discover that under his unaffected and, we might say, his ecclesiastical manner there was a keen sense which would detect injustice, and a resolution that would conquer it at all costs. His works must always hold a prominent place in any history of the Gothic Revival, and it will be evident that in designing them there was as little self-seeking as is possible with a professional man.

"Think wrongly if you will, but think for yourselves" was the advice of LESSING. It was the endeavour of WILLIAM BUTTERFIELD to act in that spirit and to avoid a stereotyped treatment regardless of the objections of would-be purists. Whether his buildings would have been more pleasing if the sources of inspiration were more manifest will depend on the character of the critic. In England there is a reverence for precedents which almost becomes a superstition. But as MICHEL ANGELO said to his objectors, if there must always be imitation, where is the chance for invention? BUTTERFIELD treated Gothic elements in his own way, and it was not to be expected that he could escape giving occasional shocks of surprise to those who believed the limits of the style were fixed for ever in the thirteenth or fourteenth century. We must also take into account the circumstances of his life. Retirement has a remarkable influence in exciting a sense of colour. TURNER lived apart from the world and startled people by his visions. If, like the majority of French landscapists, he spent a large part of every day on a boulevard he might have produced landscapes in tertiaries. BUTTERFIELD was more of a solitary than the Mediæval illuminators, and we suppose, like them, he revelled in colour schemes which earthly materials could not easily reproduce. If he had mixed more with the crowd he would have known of the fear of colour in churches which exists among the most religious congregations. But, in colour as in form, he was no follower of routine, and his courage in seeking after originality made amends for any shortcomings which are found in Keble College Chapel or in All Saints Church. No architect of his time merited more respect.

BRUGES.*

ARCHITECTS do not give more attention to the study of political economy than the majority of men. But they have ideas of the power of wealth which are not common. Most people when they see great buildings are so captivated by the appearance of them, they fail to realise what they have cost. An architect, on the other hand, knows that builders' work is necessarily expensive, and instinctively he asks where the money came from which was needed to pay for the materials and labour. The palaces of kings and the castles of feudal nobles may have been raised by levies on inhabitants, which is only another way of expressing a robbery of the weak by the strong. Churches and monasteries, in some cases, were erected with the aid of people who supplied materials or labour gratuitously, or at a very low rate, but in the majority of cases buildings represent commercial transactions, and the building owners must have had legitimate wealth at their command. When, therefore, an architect enters a city like Bruges, which possesses very handsome buildings, he concludes that it must have been inhabited by wealthy people, and he asks, How did they acquire the riches which were so wisely expended on architectural work? As a rule, a city which once enjoyed prosperity rarely becomes impoverished. Now it does not need many hours residence in Bruges to discover that the majority of the inhabitants are poverty-stricken. The streets are crowded with people who seem to have no aim in life, and who resemble the Mantuan apothecary in being bare and full of wretchedness. Without the aid afforded by the surviving Mediæval institutions they could not exist, any more than the shopkeepers of the town could succeed without the contributions of foreign visitors. If Bruges were always in a like condition it could not have fine buildings, and if the old conditions continued there would be infinitely fewer miserable spectacles. It does not take an architect long to come to the conclusion that the former state of Bruges was preferable to the present, but how was the change accomplished? He may resolve to investigate the subject, and perhaps looks out an article in some cyclopædia, but as a rule the subject is never followed out. It is taken for granted there was misgovernment, political or religious persecution, dishonest trading and the like—evils for which the present inhabitants have to suffer. For any one who is not entirely indifferent to the questions which a visit to Bruges suggests, Mr. WILFRID ROBINSON has furnished a history in which the causes to which we have referred are sufficiently explained. Having lived many years in Bruges and being a devoted student of its architecture and other antiquities, the former condition of the city is as familiar to him as that which is before his eyes. He has exhibited his knowledge on the subject in *The*

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* *Bruges: An Historical Sketch.* By Wilfrid C. Robinson. Bruges: Louis de Plancke.

Architect and other English journals, and time has enabled him to extend his researches. The visitor to Bruges will find his history an excellent aid to the understanding of the city.

The early history of Bruges is like that of many other places; it owed much to Christian missionaries. A St. Eligius is supposed to have been the first who laboured there. A St. Trudo built an abbey in A.D. 650. St. Boniface and St. Walburga also toiled among the people. Missionaries were not like anchorites, for they were not afraid of crowds, and we may conclude from the number of saints' names associated with Bruges that it was a growing place. If the name Bruges is derived from "brügge," a bridge, then we can conclude there must have been commercial interests sufficiently powerful to require a structure of that kind over the river. A writer of the fourteenth century, John of Ypres, takes that view in describing the origin of Bruges. He says:—"Very soon pedlars began to settle under the walls of the fort, to supply the wants of its inmates. Next came merchants with their valuable wares. Innkeepers followed, who began to build houses where those who could not find lodging in the fort found food and shelter. Those who thus turned away from the fort would say, 'Let us go to the bridge.' And when the houses near the bridge became so numerous as to form a town it kept, as its proper name, the Flemish word 'brügge.'" The story is an ordinary example of the evolutionary process. The builders, according to Mr. Robinson, were kinsfolk of our English forefathers, Saxons, some of whom found a refuge in England, as others did among the creeks of Flanders. An advanced stage of success in the town must have been early attained, for in the ninth century coin was struck in Bruges. A connection with England was formed through Judith, the stepmother of Alfred the Great, who married Baldwin, Count of Flanders, as her third husband. Subsequently there were several other marriages between English and Flemish families. The great Earl Godwin and his three sons, when they fled from England, found protection in Bruges, and there they arranged for their attack on England. Matilda, who married William the Conqueror, was a Fleming, and her sister married Godwin's son Tostic. Tostic aided William, and was killed at Stamford Bridge, and indeed the names of many Flemish soldiers are recorded in Domesday who received their rewards for having taken part in the invasion.

Flanders is not less an artificial creation than Holland. It was described at a very early time as a land that seemed to float on the ocean and quaked when trodden on, but by reclamations the amphibious ground became equal to the best agricultural land in Europe. The work could not be done without co-operation, and the spirit which inspired the united labours of the inhabitants was also prominent in the formation of the guilds, which exercised so great an influence on the history of Bruges. In the twelfth century the guilds often developed into trading associations. Wool was imported from England, and was converted into cloth that could not be equalled elsewhere in Europe, and from many States merchants came to exchange their productions for it. We are told that—

> Down the Scheldt from the industrious towns of what is now northern France, and down the Rhine from Cologne and other busy cities along its banks, traders brought their wares round to the famous estuary of the Zwijn. This estuary explains the secret of the great commercial prosperity of Bruges in olden times Looking at the situation of the city of to-day, cut off from the sea except by a single canal, it is not a little difficult to discover the secret of what made Bruges in the Middle Ages hold the rank among seaports that London or Liverpool or Antwerp now holds. But remember how the Zwijn broke into the Flemish coast near where Sluys still stands—how its waters spread themselves past the deserted village of Damme, and made of that lonely little place a busy port, and how the salt waves of the estuary almost bathed the walls of Bruges, and then we realise why Bruges was once a great seaport And it has been well said, as long as Bruges had easy communication with the sea Bruges was prosperous.

In the Crusades and other great European events, Bruges took a share befitting its importance, but it was not by arms or diplomacy the city was enriched, but rather by its commercial arrangements. One of them was the Flemish Hansa, by which various privileges were acquired in England, where the members could settle all trade disputes in a court of the League. Bruges was able to set up a mint in 1274; it possessed a weigh-house and other institutions which were not to be found in other places. It is supposed that the reputation of Bruges was sufficient to attract Dante, and it has had the honour to be mentioned by him in the "Purgatorio." It is easy to understand how foreigners would have various different theories about the remarkable success of the city. Our Edward III. considered it was owing to the skill of the weavers. It seemed to him, therefore, a wise policy to bring Flemish weavers to England and to encourage them in the working of native wool, which would be a preferable course to sending wool to them from England. By holding out promises that they were to feed on fat beef and mutton, that their beds should be good and that they should receive in marriage the daughters of wealthy yeomen, some weavers were induced to cross over and settle in the Weald of Kent. To them and their descendants the woollen industry of England is largely indebted. The relations between England and Bruges are suggested by the English street in that city where, in the fourteenth century, the English merchants had a weigh-house. Near it was a house known as "Old England." There were various other buildings which bore English names. The Scottish merchants had also their depôts in Bruges, and even Ireland, which was never remarkable for its extensive trade, was possessed of three houses where its merchants congregated.

If the foreigners kept together for their own security, the forty-seven guilds in Bruges were evidence of the strength of association among the Flemings. The oldest was the Carpenters' Guild, but the most powerful of all was the Masons', of whom Mr. Robinson gives the following account:—

> The masons seem to have been also architects and builders, and could design as well as carry out their work. The freedom of the guild was granted on proof that the candidate was a burgher of Bruges, and could use his pencil and chisel with skill. Many of the quaint bits of stone-carving inserted in old houses about the city were proofs of capacity produced by those who sought admission to this guild. The statutes of the guild, originally drawn up in the twelfth century, were destroyed in a fire in 1280. Renewed and modified by a charter in 1445, they remained in force until the suppression of this and other guilds in 1789. The apprenticeship of a mason lasted four years. The apprentice was lodged and boarded by his master, and was paid a small but increasing salary. The son of a guildsman might be admitted without fees, and, if taught by his father, had not to be apprenticed. No master might have more than one apprentice at the same time. Usurers and notorious bad characters were excluded from membership, as also excommunicated persons as long as they were under the ban of the Church. Guildsmen were forbidden to work on Sundays, holidays or at night. This last rule was to prevent pieceworkers getting more than their fair share of work by working over hours. The rules of other guilds were very similar. All were enforced by fines, or if this did not suffice, the unruly member was expelled from the guild. The masons' guild-house stood on the south side of the Stone Street, at the sign of the Great Fox. It still remains much as it was after it was rebuilt in 1621. The patron saints of the masons were the Four Crowned Brothers. The guild used the choir of St. Basil's chapel for religious purposes. On the pavement of the Chapel are carved, and still visible, the hammer, trowel and other emblems of the masons' art.

The guilds and other organisations, although admirable of their kind, could not save Bruges from decadence. There came a time when the battle with the sea could no longer be waged. The estuary of Zwijn became more shallow through the deposit of silt, and there were no dredging machines then invented to cope with the evil. The number of vessels which entered consequently decreased every year. Various remedial schemes were put forth. Launcelot Blondeel proposed to cut a harbour near Hyst, and from it to construct a deep canal to Bruges. The scheme was considered too visionary, but one similar to it in principle is not unlikely to be realised.

Owing to the silt Bruges ceased to be the Venice of the North, but for a time there was a desire to gain a reputation as a Flemish Athens. The old verse says:—

> When house and lands are gone and spent,
> Then learning is most excellent.

But the many men of learning and the many who were not learned, or quick-witted, or sound in judgment, which was the description given by Erasmus of his associates in Bruges, were not equal to upholding the city in the state in which it was left by the cloth merchants. Although the charities could not be so liberally supported as of yore, the number of applicants for relief was not diminished. Mr. Robinson, speaking of the description given by Vives in 1526, says that from it we see the streets crowded with beggars too lazy to work, and we hear them exacting with threats, even in the churches, alms which they hastened to squander in gluttony and debauch. We are afraid that many of our readers can testify that they have had a similar experience of claimants for aid. Artists, however, continued to make Bruges their home, and many renowned names will always be associated with the declining city. Of one class of artists Mr. Robinson says :—

> It would be unjust to pass over in silence a class of artists to whom Bruges is indebted for much of its picturesqueness. This class comprised its workers in brick and stone, its builders and architects. But it is startling and disappointing to find on inquiry that nothing is known, not even the names, of the men who designed the two most remarkable edifices of Bruges, its lofty Belfry and its elegant Town-hall. The early architects of the city were certainly strangers, probably from northern France and the parts about Tournay. The people of Flanders had no other building materials except wood and the loose stones—"field-stones," as they called them—scattered over the soil of their country. Consequently the blue stones from Tournay and the softer white stone from Brabant had to be brought from far to Bruges when required there. And with the stone came those who knew how to use it. The architect Charles Verschelde has traced in the designs of the lower parts of the Belfry and of the west portal of Notre-Dame, in its more ancient portions, the influence of these foreign masons. He also adds that a square window, divided by a single upright column, was known in Bruges as a "Tournay window," probably from the place of its origin.

In spite of all the vicissitudes of Bruges hope seems to be always upspringing in the minds of the citizens. At the present time imagination is busy with the prosperity which is expected to arise after the completion of the new canal to the sea-coast and the harbour, which are expected to revive the ancient commerce with the rest of the world. Mr. Robinson, as becomes an Englishman, is not so sanguine as the people around him, but so great an engineering undertaking should meet with a due reward for the outlay. If the canal can be as attractive in its results as the architectural works have been, there will be no reason to complain of profits. As about 11,000 people every year pay to see the beautiful reliquary by Memling, the total number who visit Bruges must be enormous. The majority of them are of the English-speaking race, and they will find it advantageous to be equipped when visiting the ancient city with Mr. Robinson's interesting and trustworthy historical sketch.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, W., Mr. G. H. Fellowes Prynne, president, in the chair.

The following were elected members :—Messrs. E. G. Cole, J. H. Peacock, J. Bruce Merson, A. Wingate, H. G. Coyne and J. H. Watkins

Messrs. L. Cabuche and F. E. Ravenscroft were reinstated members.

Votes of thanks were passed to Messrs. A. Waterhouse & Son for allowing members of the Association to visit the University Hospital extension works on February 10, the first spring visit. A second vote was passed to Messrs. A. Dunbar Smith and C. C. Brewer, who allowed a visit on the same occasion to the Settlement, Tavistock Place.

On the motion of the President, a unanimous vote of thanks was passed to Mr. W. H. Seth-Smith for his donation of 10*l.* to the library.

Mr A. W Hennings read the following paper, illustrated by lantern views, on

The Exterior Treatment of Sharp or Acute Angles in Street Buildings.

The subject of the paper this evening, "Exterior Treatment of Sharp or Acute Angles in Street Buildings," may seem to some rather far-fetched, and indeed it is hardly one that comes in student or class days, but sooner or later, when you get into active practice, you will have a site that is not right-angled, one whose prominent corner is much less than a right angle, and then you will find it indeed a difficult problem. First of all, the plan will trouble, for it is very obvious that the sharp angle is of no good to you—the ground enclosed is so small that it is clearly a waste of material to enclose it with bricks and mortar, and yet in a town the land is so valuable that the owner naturally does not like to sacrifice a square foot without a very good reason. Then again, the very prominence of the angle seems to fit it especially for a business entrance; but whilst its position is apparently so suitable for that purpose, it is clear that an entrance so placed must mean long passages and consequent waste to reach the furthest parts of the building. I do not propose to-night to follow up this question of plan of the structure beyond the angle, but mention it in passing as one of the factors that will have to be considered. My attention to the subject was caused in the usual way, *viz.* having to design various buildings to fit angular sites. After a few attempts, it struck me that the best thing to do was to carefully observe what had been done in such instances, and I was somewhat amazed to find how many times the problem had been attempted, and also that very few of the attempts could be called really successful. The recent cutting of important new streets through old localities has resulted in the formation of many difficult sites, and, after carefully looking at the various treatments, I have come to the conclusion that they all fall under one of two heads :—First, the architectural lines of the two façades are simply returned across the sharp angle; secondly, a distinctive treatment to express the angle.

Now, the first method is the easiest and cheapest. It is, therefore, most generally used, and, although it is really an avoidance of the problem, it is not therefore bad—indeed, I hope to show you some very good effects; and as long as there is only a flat roof to the building there is no difficulty, but directly a pitched roof is required it is easy to see that the junction of the ridge running parallel to each front must meet at a great distance back from the angle, and will want something to mask it, whilst if the angle enclosed is so small that one roof only can be used for a covering the result will be a ridge rising towards the broadest part, and I venture to think it will pass the wit of man to make such a roof presentable on the exterior.

To return to the plan. The first thing that suggests itself is to cut off the useless point—in fact, to truncate the angle—and the amount so cut off will depend chiefly upon how much land your client is willing to sacrifice. If it is only a little there will be only a narrow face to treat, and possibly the best thing for this is to carry the strings and cornices round and vary the windows, but it is surely the most bald way of treating it by simply cutting off the angle, and some views will be shown you that bring out this poorness of design very clearly. The right thing to do seems to be a small return at right angles to the façades and then fill up the intervening space with a wall at right angles to the bisection of the angle. This at once gives interest, and not only satisfies the eye with proper mitres to the strings and cornices, but serves a second useful purpose by well enclosing any detail put on the end. Do not in any case put a distinct feature on to the end unless you so enclose it—for the inevitable result is that the said feature will look stuck on and not grow, as it should, out of the structure.

If, however, a considerable angle can be cut off so that there is a reasonably wide face to treat, you will at once have room for special features if the site and purpose of the building warrant it; but the before-mentioned right-angled returns to the façades are absolutely necessary to enclose and mark it.

Another way is to sacrifice the point and join the two façades by means of a curve. This is the most popular way, to judge by the number of times it occurs in our streets, and any treatment of this must be ruled by the smaller or greater radius of the curve. If small, there is very little scope, and perhaps the best thing is to simply run the strings to cornices round it; but this requires care, as you will clearly see by the effect of a building in Queen Victoria Street. Again, the necessity of right-angled returns to the façades must be borne in mind; the curve is so much more clearly defined by their use, and the breaks, be they small or great, at once give a chance to enclose a special feature. Still another way to enclose the curve is by means of projections taking the form of pilasters or strips—examples of both will be shown—and there is a very notable illustration of the bold effect of this treatment in Mappin & Webb's premises at the junction of the Poultry and Queen Victoria Street

There are also samples, and good ones, too, where there is no break or mark, but the effect there seems to have been produced by reason of the great size of the curve, and it is really the façade continued, and can hardly be called a treatment of an angle site. Returning to the smaller curve, the natural growth upwards seems to be towards some sort of turret, and it is in this that there are so many failures So long as the features are enclosed by the lines of the building they are kept in their places, and unless very strange and uncouth do not greatly offend. But directly they get clear and are outlined against the sky and have to be judged on their own merits, the difficulty begins. Here it may be remarked that no amount of ingenuity displayed in the formation of a turret by transitions from octagons to circles and back again—with all sorts of cunning and spicy detail—will atone for the lack of pleasing outline. Many of the competition designs published in our technical journals show this extreme cleverness, but when any of them are carried out somehow the result is not so good, and with humiliation one has to confess that the sober, simple outline to be seen on so many stable turrets erected last century are much more satisfactory than the clever but laboured productions of the present day. They are to my mind products of that unrestfulness so typical of the times.

As to the window treatment of the curve, the size must determine how many windows there shall be at each level. If very small, a blank end will probably be best, for lintels or arches put on a small curve have a very uncomfortable and weak look from certain points of view. This is, perhaps, a truism, but you will find modern examples of the error.

There are some very satisfactory treatments where a pier is at the centre of the face of the curve with windows each side, and certainly the effect is strong; it seems to efficiently buttress the angle The introduction of a doorway at the base of the curve does not seem very desirable, although it is frequently done, but it tends to weaken the appearance, and its details will inevitably break the clean sweep of the curves.

Another point for consideration in the treatment of an angle or of a curved end is, How many of the horizontal features of the façades should be taken round or across it? Some are necessary to tie it in, but if all are taken across the result seems to be merely a continuation of the façades, and it will, I think, be very clearly shown by the views that the most successful of the designs are those where the principal and strongest features are used, the subsidiary ones being stopped by a pier or return.

In City buildings, however, the most difficult place to treat properly seems to be the shop front. If there is no door the angle is obviously a splendid place for the display of goods, and piers sufficiently substantial to satisfy the eye are seldom allowed. This is a lamentable fact, but still it is a fact that you will have to deal with, one that will cause you much trouble. To ignore it and treat the building as a design only above the shop cornice is weak, but it is the course usually followed, and to judge such designs you must see them when the shutters are up, when a solid base sufficient to support the superstructure is apparently formed. An answer to this objection is that when the shops are in use the streets are so crowded that this defect is hidden, but surely it is always possible to bring some strong line down, and the right-angled returns to the facades before advocated will here serve a very useful purpose.

In domestic or office designs it is nearly always possible to get a strong base, as, for example, the delightful corner at the Institute of Chartered Accountants, where the stonework of the base is not only carried right round the curve, but its appearance of strength emphasised by means of horizontal rustications.

There is yet another way of treating the angle, and that is to so mask it that it is impossible to know that it is an acute angle. This is hardly a commendable thing to do, but there is an important example in the Bank of England at the corner of Princes Street and Lothbury. If it were not for the tanks above the attic storey you would not guess that the angle was more than right angle, whereas it is really very sharp. No one can deny its cleverness, but it does not seem to be on right lines.

The City abounds in various angular treatments, and honest criticism must admit that many of them are very clever indeed; there seems to be no lack of imagination in them, and oftentimes they must be judged by their design and not by their detail. The latter is often bad—very bad, and would disgrace our elementary class of design—but there the design is, and as such it is to be criticised. The City is, indeed, a glorious school for study, and is a great example of the truth of the old tale of "Eyes and no eyes." To those who have learned the language the streets become, as it were, an open book wherein something good and useful can always be read, but how many of us do so? A rush from the train to the office in the morning, and another rush back in the evening, gives one but a blurred idea of what is to be seen. But go up to town one fine summer's morning—say between four and five, before even the workmen begin to get about—and you will be astounded at the wealth of design there is to be seen when all the streets are quiet, and you can stand to look at a building without attracting a crowd. Then you will find the charm of London, and at once come to the conclusion that many cities we rush to see on the Continent are not to be compared with ours—not even for picturesqueness. What glorious sketches many of the streets would make, and perhaps some day we may even get some in the Association Sketch-book.

It is time now to turn to the views. These are not by any means exhaustive of the subject, but have been taken as types, and in criticising them I would ask you to bear in mind the point tried to be clearly brought out—that credit should be given to the design, even if the detail is bad, and that good and clever detail must not excuse a poor design.

Mr. H. D. Searles Wood, who proposed a vote of thanks, said Mr. Hennings had very conclusively analysed the views, emphasising their faults and beauties. It would have been interesting if they had had the names of the architects of all the examples of good or bad design, and it would be a good feature if the buildings bore the names in some way of the architects.

Mr. W. H. Seth-Smith, who seconded the vote of thanks, said the angles and turns which could be seen projecting from all points were for the most part offensive. They could not have had a paper of more importance to architects, and the effect of having their attention called to such an important feature in a building would be beneficial. What they had heard and seen in the lecture rather emphasised the view that the importance and dignity of London architecture should be distinguished from country work. This did not mean, however, that we should be so classical as to lose picturesqueness. There were one or two familiar angles which had not been referred to. The Constitutional Club in Northumberland Avenue, which had been well treated, was one; another successful example was the National Liberal Club, by Mr. Waterhouse. Mr. Waterhouse gave a good example of emphasising his angles. After looking at the views on the screen, they felt how very difficult it was to give strength to the parts of a building which were apparently weak. In designing buildings for important streets a knowledge of angles and their treatment was useful, as such erections were observatories from the best approaches.

Mr. S. Flint Clarkson thought the paper did not refer sufficiently to acute angles. The question of entrances was worthy of attention, and it seemed to him that a doorway should lead from the principal thoroughfare. In the number of doorways the architect must be guided by logical treatment. Mr. Hennings referred to Sir John Soane's work at the Bank of England, but did not seem to appreciate it. One could not study such work too closely; it was a good example of successful angular treatment.

Messrs. A. C. B. Booth, G. B. Carvill, Matt. Garbutt and C. H. Brodie also supported the vote.

Mr. Hennings, in returning thanks, said he found great difficulty in getting the names of the architects of the buildings he had shown. He made several inquiries, but in most cases with little success.

It was announced that the next meeting would be held on March 9, when Mr. C. E. Bateman would read a paper on "Small Houses."

TESSERÆ.

Earls Barton and Whiston Churches.

ON one of the stations on the Peterborough railway we can descry on the right hand the stern Romanesque tower of Earls Barton. Its lofty yet massive proportion, the barbaric richness of its rude arcades and heavy balusters, carry us back to the wild freedom and isolated greatness of England's early days. To the right reposes the last building of ancient times, the fairy church of Whiston, its graceful tower with its rich panelling, and battlement and pinnacle, kindled into beauty by the last expiring rays of northern skill and faith. By a mere calculation of years, the latter would be comparatively one of our own day, and in outward appearance it has all the freshness of a newly consecrated temple; while Earls Barton bears upon it all the stamp of ages. Yet who does not feel the seven centuries between the two as nothing compared with the three that divide himself from Whiston? Both, we feel, are ancient, both belong to a class from which we are separated; the years that separate them are like a stream winding gradually away from its source, changing, developing or corrupting, but all gently and gradually without any sudden perceptible break or jar. We, on the other hand, are separated from both of them, as it were, by a single yawning gulf, at a smaller but more impassable distance; a complete revulsion of feeling separates us alike from both, so that the last of pure Perpendicular churches is to us a monument of antiquity, a heirloom and relic of departed times, in a sense in which the old Saxon pile could hardly have been to those who reared the last temple of the Mediæval church.

Wilkie at the Edinburgh Academy.

Wilkie was always first on the stairs leading up to the Academy (which was then held in St. James's Square), anxious not to lose a moment of the hours of drawing; and this love of his art, paramount to all other gratifications, continued with him to the last, even when his success had given him the means of indulging in relaxation and procuring amusement. When in the Academy his intenseness attracted the attention of the more volatile students, who used to pelt him with small pills of soft bread; as he was one of the first to be present, so he was one of the last to depart. After Academy hours, which were from ten to twelve in the forenoon (the best time of the day for application) those who were apprentices returned to their several professions; but Wilkie invariably returned to his lodging, there to follow out what was begun in the Academy, by copying from his own hands and face in a mirror, thus, as it were, engrafting the great principles of the antique on the basis of nature. He soon became aware that in telling a story the action of the hand was as necessary as the action and expression of the features. The dexterity and knowledge he thus acquired when young were of the utmost importance to him when he carried out his pictures of familiar life, as he found it was impossible to get his models to give him either action or expression. To exemplify this observation it may be mentioned that in his admirable picture of *The Blind Fiddler*, now in the National Gallery, the hands of all the figures in action are from his own, as is also the expression of the heads; in fact, the girl leaning over the back of the chair is very like what he was at this time. The other heads requiring less mixed expression were painted at once from the model, and exhibit more of Tenier's sharpness of touch (the master he had in his eye at this time). As the picture was painted for Sir George Beaumont, Sir George gave him a very fine specimen of this master, which used to be on his easel during its progress. Reverting to his studies of hands, his drawings are innumerable, and many of them possessing the character and grace of Raphael and Correggio. He generally made these studies in black and red chalk, heightened sometimes with white, such as we see on those of Watteau. Wilkie could sketch with the left when drawing with the right hand, and it has been often observed when using the same method that the left-hand sketches possessed greater character, being less mannered in the handling.

The Busts of the Roman Emperors.

Seldom does the quiet and gentle strength of moral will shine forth from the features of a Roman emperor, as from the glorious face of Antoninus Pius; oftener the force of a coldly mathematical understanding, bare of ideality, inaccessible to great visions; now and then the beast-tamer's power to subjugate, and sometimes, too, the might of unbridled passion, which at the bottom is weakness. Another remark one makes is that the races show—even if interruptedly—retrogression. They begin with a fine regular type, which more or less sustains itself through all the members of the so-called Julian family, in which one might be inclined to see the influence of an æsthetic breeding, carried through many generations. These are men who have grown up amid Hellenic painting and sculpture, have brought their mental food from the literature of Greece, and moved in circles where every gesture passing the limit of beauty shocks; where no one can expect success without mastery over his outer man and an intuitive knowledge of the dispositions of those around him, and where perception is sharpened against the polished exterior of his companions. With the Flavians a coarse mode of features comes on, "the urbane" gives way for a something rustic, the æsthetic for a something common. The honest, good-humoured, but stingy toll officer, who was father of this house, plainly has handed down his face to Vespasian and Titus. Some of the Antonines have a spiritual look that more than counterbalances the refinement of the Julians; but the beauty of the former is less a heritage than a personal gain, is more of a spiritual than of a bodily kind. In their features, as in their time, the antique strives for a higher form of life—an ethical form—to escape death. After them faces of barbaric or doubtful mould are usual. Rude soldiers change with dull stewards of the realm, and the peculiarities of both kinds unite in a repulsive whole in Constantius Chlorus and Constantine.

The Mystic Symbols of the Holy Tree and the Holy Fire.

There are two symbols used in Persian art: the one is a tree, more or less elaborately blossomed, and supported, as heralds say, by two living creatures, genii, partly or wholly manlike, or animals, sometimes of known kinds, lions or the like, sometimes invented monsters; the other symbol is an altar with a flame upon it, supported by two living creatures, sometimes man-like, sometimes beast-like. Now these two symbols are found, one or other or both of them, in almost all periods of art. The lion gate at Mycenæ is a prominent example. The Holy Tree is common in Assyrian art; the Holy Fire is found in it. The Holy Fire with the attendant figures, priests in this case always, is on the coins of all Sassanian kings; the Holy Tree, supported by lions, is found in Sassanian art also. Now it is clear that the two symbols are apt to become so much alike in rude representations that sometimes it is hard to say whether the supporters have the tree or the fire-altar between them; and this seems to have puzzled those who used them after the Sassanian period, and when, doubtless, they had forgotten or perverted their original meaning. They are used very often in Byzantine art, in carvings and the like, where, again, they sometimes take another form of peacocks drinking from a fountain, but of all things are commonest, perhaps, in the silken stuffs that were wrought in Greece, Syria, Egypt, and at last in Sicily and Lucca between the eleventh and fifteenth centuries. In these, at first, it was chance whether the thing between the creatures should be the altar or the tree, though the latter was commonest, but at last the tree won the day, very likely rather because it was prettier than for any more abstruse reason; still, even in quite late times the fire crops up again at whiles. It should be mentioned also that in these later representations man-like figures are seldom if ever seen; beasts of all kinds, from giraffes to barn-door fowls, take their place.

Influence of Egypt on Greek Architecture.

The Egyptians were the inventors of the classical ordinance, for the Greeks really had little to invent in the way of elements, however much they may have accomplished of artistic and intellectual refinement. In the form and decoration of many of their columns we see the germ of the Greek orders. And in the treatment of their entablature—than which it would be difficult to conceive anything more beautiful and harmonious—the triglyph, the decorated metope and the figure-charged frieze of the Parthenon may have had their suggestive source; and not only so, but they invented more than has ever yet been appropriated. The column-capitals of Egypt are not only suggestive of new varieties, but they are pregnant with new principles which their successors have never yet seized upon. That principle of variety, for instance, introduced into the portico, by which the capitals increased in richness of decoration from the extremity on either hand towards the centre, where it became greatest and thus formed a sort of climax, is a most artistic one, eminently worthy of reception into modern practice, where it may become an inexhaustible source of beauty and freshness of design.

Perceptions of Colour.

The perception we receive of the colour of an object depends often as much on the condition of the eye when the object is seen as upon the object itself. By the action of lights of different colours the sensibility of the retina may be so modified that the same object will appear at different times to have different colours, and unreal objects will often be perceived. These are called spectra. If we place on a sheet of white paper a red wafer, and, illuminating it strongly, direct the eye steadily to it for a short time and then look at the paper close beside it, we shall there see a blue wafer of the same size. This object is an optical spectrum. The cause of its appearance is easily explained. By the action of the strong red light proceeding from the wafer, the retina is rendered for the moment insensible to the operation of a more feeble red light upon it, for the same reason as the ear would be insensible to the ticking of a clock immediately after being affected by a discharge of artillery. Accordingly, when the eye, after viewing the red wafer looks at a white wafer beside it, the action of that portion of the compound white light reflected from the paper which is red fails to produce any perception, and the remaining constituents alone are perceived, which accordingly present a blueish tint. To comprehend this and other similar illusions it is very necessary to remember that white light is a compound of reds, yellows and blues, and that if we deprive it of any one of these elements it will assume the tint produced by the others. Thus, if the eye be insensible to red light, all white objects will appear to it with a tint composed of yellow and blue. If it be insensible to blue light, then white objects will appear orange.

Ancient Allegorical Figures.

The allegorical representations of the ancients generally express what they mean directly and easily, and often by a single circumstance. This character of them in general is to be observed in going through any collection of statues. Thus Prudence is marked out by her rule pointing to a globe at her feet, Justice by her equal balance, Fortitude by a sword, and Temperance by a bridle; Devotion is flinging incense on an altar, Honesty is in a transparent vest, Modesty is veiled, and Clemency is known by her olive branch, Health is distinguished by her serpent, and Liberty by her cap. Tranquillity stands firm against a column, Gaiety has the myrtle of Venus in her hand, and Joviality the wreath of flowers which they wore of old at feasts. Necessity is distinguished by her clavus trabalis, the Destinies by the distaffs, and Fortune by her rudder. All these marks are settled and obvious, and most of them point out the character of the person they belong to in a more easy and strong manner than a multiplicity of marks for each could ever have done. As propriety and simplicity are the distinguishing character of the ancient artists in their allegorical figures, so multiplicity and impropriety may almost be looked upon as the distinguishing character of the modern.

NOTES AND COMMENTS.

In spite of their go-aheadness the Americans have as much weakness for the law's delay as if they were still subjected to the English courts. For over seven years a contractor's case, where the amount at issue is only 400*l.*, has been going on, and apparently the action is about to be recommenced, for the Supreme Court has sent it back to the first court in which the case was heard. The principle at stake is, however, of importance not only to plaintiffs, but to contractors throughout the world. The question involved is, Can more be expected of a contractor than the faithful carrying out of the plans and specification referred to in his agreement? In 1891 Messrs. Harlow & Co. contracted for the construction of a reservoir. A year afterwards the work was completed and the engineers certified that a sum of 20,553 dollars was due to the contractors. The municipality of Homestead, for whom the work was done, retained 2,000 dollars on the ground that the reservoir was not finished, because there was a leakage. The contractors immediately commenced an action to recover the amount. When the case was first heard the jury were directed to find a verdict for the plaintiffs. The municipality appealed on the ground that the work to be done was the construction of a watertight reservoir. For the contractors it was contended that all they agreed to perform was to carry out certain plans and specifications, and they had not guaranteed that their work would be more than a realisation of those documents. In a similar case it was held that contractors were given no discretion, as every detail was fixed which they had to follow. The Supreme Court held that the money was due when the work was finished; but the judge in the first instance should have left the jury to determine whether the work had been finished. In order to enable that end to be attained the case has to be retried from the beginning. In England the judgment would be probably given in such a case against the contractor, who is supposed to exercise his own judgment in avoiding anything which would leave the work incomplete. In the leading case Thorn *v.* Lord Mayor and Corporation of London it was laid down that the usage of contractors to rely on plans and specifications was most unreasonable, and that the practicability of the documents should have been inquired into before a tender was submitted. So far as can be made out from the case we have referred to, the American courts would have taken an opposite view to that which was adopted.

It may not be known to all municipalities that the Sanitary Institute has already examined 5,400 candidates for appointments in which sanitary knowledge is demanded. The certificates of the Institute are accepted by over 200 local authorities, including most of the principal towns of England. During the present year examinations will be held in other centres besides London, including Manchester, Liverpool, Birmingham, Leeds, Newcastle, Cardiff, Exeter, Edinburgh and Belfast. The Institute has, in addition to examination for official sanitary appointments, also arranged for an examination in practical hygiene for school teachers, which cannot fail to extend a knowledge of sanitary science throughout the country. It will also enable teachers and other school authorities to realise that when dealing with pupils the brain must not be overtaxed nor physiological laws disregarded.

In the Archivio Buonarroti, which will be found in the house of Michel Angelo, No. 64 Via Ghibellina, there is a vast collection of letters by the sculptor, and of those which he received from the numerous people with whom he was brought into relation. The correspondents range from popes, cardinals and statesmen down to quarrymen. Professor Karl Fray, of Berlin, has undertaken to make a selection and translation of those which he considers most interesting. They will throw light on the long and laborious career of the great artist. Many of the writers employed the dialects in which they were accustomed to speak, and it appears that Michel Angelo, in order to be clearly understood, used sometimes in his reply to adopt the same peculiarities. Condescension of that kind suggests the kindliness of Michel Angelo, and the letters will therefore give a better revelation of his thoughts and feelings than could be obtained by contemporaries who were not intimate with him. The letters which Vasari introduces in his life of the sculptor cannot be supposed to be peculiar, for with all his sternness he was able to be patient with his humbler contemporaries.

The catalogue of this year's International Exhibition at Paris will be of a size which will daunt all users but encyclopædists. It is expected to form from twenty-eight to thirty volumes. Nine volumes sufficed for the exhibition of 1889, and the Great Exhibition of 1851 was catalogued by a single volume. At first it was calculated the contributions of about 50,000 exhibitors would have to be described, but it is now expected the number will extend to 76,000, or say 40,000 for France and 36,000 for foreign exhibitors, but if supplementary exhibitors are included the number of exhibitors may approach 100,000. It is expected that the catalogue relating to the Social Science section will contain the results of the last census in France.

ILLUSTRATIONS.

WESTMINSTER ABBEY: ABBOT ISLIP'S CHANTRY, IN NORTH AMBULATORY. MONKS' COMMON ROOM. CRYPT UNDER THE CHAPTER-HOUSE.

The name of John Islip, who was Dean of Westminster, has been lately resuscitated, through the circumstance that in his rent-roll there appears an entry as to the letting of one of the houses in the Sanctuary to John Shakesper, who is supposed to have been the great-grandfather of the dramatist. Islip became abbot in 1500. Three years afterwards he laid the foundation-stone of the chapel of Henry VII. in the presence of Sir Reginald Bray, architect, and others. He held his office until 1532. He was a great builder. Among his works were the western towers as far as the roof, the apartments and gallery, or pew, by which the abbot could overlook the nave. The Islip roll belonging to the Society of Antiquaries represents his obsequies. Dean Stanley describes the scenes in sympathetic language as follows:—"We see him standing amidst the 'slips' or branches of the power of modern virtues, which, according to the fashion of the fifteenth century, indicate his name, with the words, significant of his character, 'Seek peace and pursue it.' We see him, as he last appeared in state at the coronation of Henry VIII., assisting Warham in the act so fraught with consequences for all the future history of the English Church amidst the works of the Abbey, which he is carrying on with all the energy of his individual character and with the strange exorcisms of the age which was drawing to its close. We see him on his deathbed, in the old manor-house of Neate, surrounded by the priests and saints of the ancient church, the Virgin standing at his feet, and imploring her Son's assistance to John Islip—'Islip, O Fili, veniens succurre Johanni!'—the Abbot of Bury administering the last sacraments. We see his splendid 'hearse' amidst a forest of candles before the high altar, with its screen for the last time filled with images, and surmounted by the crucifix with its attendant saints. We see him as his effigy lay under the tomb in the little chapel which he had built, like a king, for himself, recumbent in solitary state—the only abbot who achieved that honour. The last efflorescence of monastic architecture coincided with its imminent downfall, and as we thus watch the funeral of Islip, we feel the same unconsciousness of the coming changes as breathes through so many words and deeds and constructions on the eve of the Reformation." The chapel is an example of the humour of the time when it was erected, for a rebus is employed to suggest the Abbot's name. It consists of an eye with a hand grasping the slip or branch of a tree, as well as a man slipping from a branch; the rebus is repeated several times. The chapel is occasionally used as a robing-room.

RESIDENCE AT OULTON, LOWESTOFT.

This residence stands upon a slight eminence overlooking Oulton Broad, and is built of red brick and Ketton stone. The contractors were Messrs. J. Youngs & Son of Norwich, and cost 4,009*l.* The architect was Mr. William C. Street, of 18 Walbrook, E.C.

ANNE HATHAWAY'S COTTAGE.

SHILLINGFORD HILL, BERKSHIRE: DININGROOM CHIMNEY-PIECE. CORRIDOR, CHAMBER FLOOR.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

The Works of Gibbs (*continued*).

(*Continued from page* 132.)

[It may here be stated that the succeeding article was being penned on the day that the eminent architect, of whose churches it forms the subject, was passing away.]

AMONG the numerous instances of works in stained-glass—many of them of high excellence—produced by Mr. Alexander Gibbs between 1870 and the present time, some of the most interesting iconographically are those which he has executed from the designs and under the superintendence of the late Mr. Butterfield,[*] either in churches that have been built from that architect's designs, or in those which he restored and in some instances rebuilt, or in sundry debased churches of the early Revival which have been remodelled and refitted by him with a result that is often very church-like, despite the mean architecture of their structures.

The list of churches in which windows of the Gibbs-Butterfield fabrique are to be met is a long one, comprising—to mention but a few—St. Ninian's Cathedral, Perth; the churches of Ottery St. Mary; St. Cross, Winchester; St. Editha, Tamworth;[†] All Hallows, Tottenham;[‡] St. John, High Barnet;[§] All Saints, Babbacombe, and St. John's Newbury; the college chapels of Rugby and St. Columba, Rathfarnham, Dublin; St. Mary Magdalene's Church, Enfield;[*] the chapels of Fulham Palace and Keble College, Oxford;[†] and the five striking and abnormal London churches of St. John, Hammersmith; All Saints, Margaret Street; St. Alban's, Holborn; St. Augustine, Queen's Gate; and St. Clement, City Road.

Upon the majority of the churches named in the above list the few brief and generalising notes given below are all that can here be afforded. The five closing ones, however, are entitled to something more than this brief distinction, belonging as they do to that epoch in the history of the Gothic Revival characterised by eclecticism and development, each being a church in which the architect stepped beyond the mere repetition of English forms, without, however, losing sight of our own incomparable detail, to produce a building in which a free eclectic manipulation of parts has been grafted upon a system of polychromatic decoration, having its basis in the fact that London is naturally a brick town. For although churches have been constructed in this material ever since the dawn of the Gothic Revival seventy years ago, Mr. Butterfield was one of the first to prove to us that its use—in the plainest form at St. Matthias, Stoke Newington, and in its more costly one at All Saints, Margaret Street—is compatible with the highest flights of architecture.

It is true that these five remarkable buildings present many characteristics in common with each other—characteristics which have marked the long career of their late distinguished architect; but their members are sufficiently varied to admit of that comparison and contrast which, without losing sight of the text of these papers, the writer opines will be more acceptable to his readers than a detailed description of each church.

Next to their brick construction, the most noticeable feature which these churches possess in common is the confinement of their plan to that of a nave and chancel, both aisled, but in which the organic structure, *i.e.* the relation of the several parts to each other, is clearly defined by the architecture. Indeed, few architects have been more careful in making the ritual sanctuary, the chorus cantorum, and the nave answer to the constructional members of the design than Mr. Butterfield, and this is perhaps nowhere so finely illustrated than in that earliest of his London churches, St. Matthias, Stoke Newington, which, had it not been alluded to at more or less length in preceding numbers of these papers, might be brought into comparison with the other five. Here there is something which teaches us that the *worship line* beginning from the laity in the nave, and continuing through the clergy in the central chancel—formed here beneath the gabled tower—up to the brick-vaulted sanctuary projecting beyond, is not inaptly symbolised by the ridge line of the roof running in the same direction.

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[*] Mr. Butterfield's alliance with Mr. Wailes, as illustrated by the windows of that artist described in a former number of these papers, was supplanted during the middle of the fifties by one with the Messrs. O'Connor, which in its turn gave place, now more than thirty years ago, to a formal co-operation with Mr. Alexander Gibbs. Between them, especially of late years, they have done some very fine things, notably the four clerestory windows in the chancel of St. Augustine, Queen's Gate.

[†] The great east window of this—one of the largest and most imposing churches of North-East Warwickshire—is a remarkably good specimen of the Gibbs-Butterfield fabrique, the figures, those of the Twelve Apostles, being of brilliant yet full tinctures, relieved by a background of white. The window itself is peculiar, consisting of six lights divided into groups of three by a species of triangular buttress rising up through the tracery to the head of the depressed containing arch.

[‡] All Hallows, Tottenham, was a late fourteenth-century Middlesex church of the customary type, with a truncated nave and aisles under separately gabled roofs, a western tower and a grandiose south porch with chamber above. The whole had, however, suffered grievously during the last and early part of the present century, when the northern aisle was rebuilt in the Gothic of 1816, and the interior was choked with pews and galleries, without antiquity to recommend them. Mr. Butterfield, on being called in to superintend the restoration—or, as it proved in the sequel, the almost total reconstruction—of Tottenham Church, lengthened the nave by one bay, added a clerestory, placed his chorus cantorum in a transept, and threw out a short sanctuary beyond. These works, which were carried out in red brick and in the Geometrical Decorated style (the old portions being of a good and rather early type of Perpendicular) will take years before the rawness of their material is toned down. We miss, too, the customary vigour of the architect, though the east end is dignified, and "tells" to advantage when the church is approached from that quarter. With the exception of some fine old foreign work in the west window of the north aisle, all the stained-glass in Tottenham Church is by Mr. Gibbs, overlooked by Mr. Butterfield, and if in some parts of it there is a tendency to a Byzantine-like stiffness in the drapery of the figures, a rawness of tincture and a thinness of texture, the vitreous decoration of this church must be pronounced satisfactory from its uniformity.

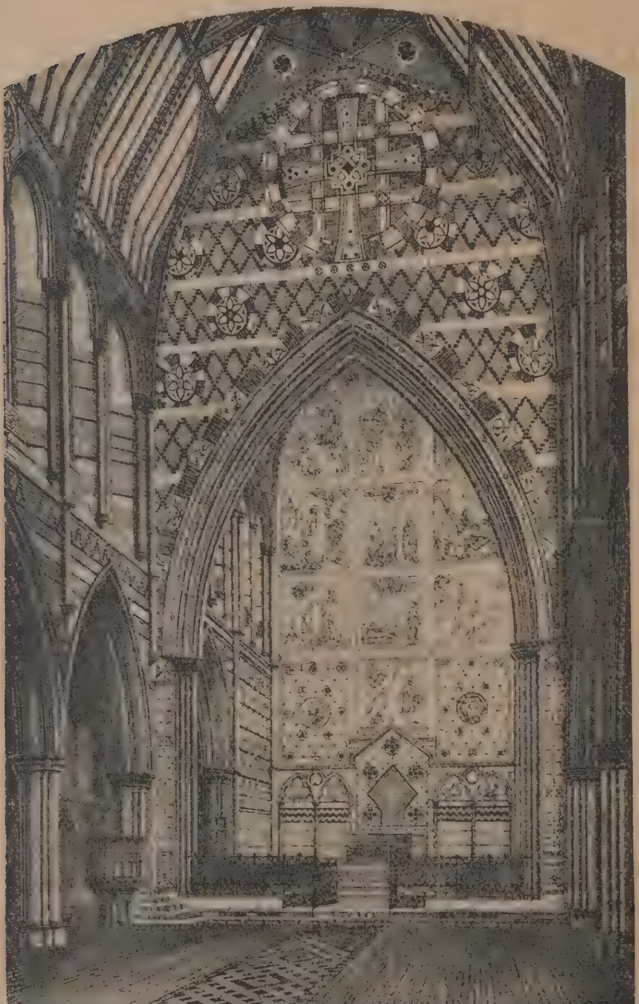
[§] The finely-situated church of St. John Baptist at High Barnet, erected by John de la Moote, abbot of St. Albans about 1400, the architect being one Beauchamp, is another church of much the same type as Tottenham, and underwent still greater transformation at the hands of Mr. Butterfield about the same period. Parochial needs calling for an enlargement somewhere, the lean-to south aisle was removed and a new nave, south aisle, transept, chancel and tower were raised on its site, so that the church now consists of four parallel members, *i.e.* the old Perpendicular nave with its graceful piers composed of four slender shafts attached to a core, its chancel, and its lean-to north aisle; and of Mr. Butterfield's new nave and chancel, separated from the south aisle by tall octagonal columns, and clerestoried with sexfoiled circles and three-light windows arranged alternately after the Norfolk fashion. The south clerestory of the old nave has been denuded of its glazing, and now forms an open arcade looking into the new one. The northern window of the old chancel (good Perpendicular) remains, but the eastern one, a circle, is Mr. Butterfield's. The glass, by Gibbs, is a finely-treated Crucifixion within a vesica. In the new chancel, where the instrumenta are of the type usually affected by the architect, the east window is a large one of five lights thrown high up in the wall, and the glass which from the same atelier represents in the lights the Ascension, and in the circle the Session in Majesty, is less raw in its tinctures than that at Tottenham. Of late years this church has received new fittings exhibiting much fine carved work. These well deserve a visit, as does, indeed, the whole structure, whose arrangement on first entering, owing to the curious parallelism of the two naves, is a little difficult to make out. There are several churches in the vicinity of Barnet that can be brought into the limits of a Saturday afternoon ramble, notably that of Monk's Hadley, an excellent and typical specimen of a Middlesex village church, interesting as being an early restoration of George Edmund Street (c. 1852).

[*] One of the architect's most successful rural churches, finished in 1883.

[†] A building in which Mr. Butterfield may be said to have approached the sublime in architecture. Tastes, of course, differ as to its mode of decoration and furniture, but it may be with safety asserted that had its distinguished author restrained himself somewhat in the matter of its structural polychromy, this chapel and Keble College would have secured a far larger circle of admirers. Next to its grandeur of proportion the interest of Keble Chapel lies in the completeness of its iconography. This is doubly interesting from the fact that during the period which elapsed between its inception and its completion (1870-76), the subject of decorating St. Paul's Cathedral had become little short of weariness to the world, while at Oxford a single learned and inventive mind had produced a work successful enough to form an era in English church architecture, by displaying its most important principles to all the world, inherited from the Nicene period.

Then there is Mr. Butterfield's tenacity to the square-ended eastern termination; his preference for a bold and vigorous form of Early Decorated, which in his plastic hand became of a type peculiarly his own; and a penchant in certain features of detail and decoration towards eccentricity and uncouthness, which his best friends cannot help deploring as ill-judged, and as detrimental to that nobility of proportion and grandeur of outline which stamps each and every of his works, be it the humble village church or the stately one rising high above the dwellings of the thickly populated town.

Lastly, there is the evidence which each church displays of its adaptation by the architect to the proper performance of the Anglo-Catholic ritual, and for that dignified ceremonial which has been so developed of late years.



St. Alban's, Holborn.
(*From a Drawing made just before the Consecration.*)

The Chapel of Keble College, Oxford, looking E.

While hardly coming within the province of our papers to trace the origin of these five stately churches, it may, without irrelevancy, be stated that in each case it was a very humble one. Thus, at St. Matthias, Stoke Newington, the congregation met for nearly five years in the school buildings contiguous; All Saints (whose history being more immediately concerned from its artistic standpoint with our subject will be detailed further on) grew out of Margaret Chapel, a nondescript structure of the last century, made memorable from its having been the scene of the labours of Father Oakeley, who seceded to Rome in 1845, and of his successor, Rev. Upton Richards, both of whom strove to impart to the dingy old building as ecclesiastical a character as was possible; while at St. Alban's, Holborn, the first religious service was held May 11, 1862, in a room over a costermonger's fish shop at the corner of Baldwin's Gardens; but this place being dirty and dangerous and infested with vermin, the services were transferred a month later to "The Cellar." This formed the basement of a house occupied by a printer in Greville Street, and annoyances were likewise experienced here. The printing machines above rattled down dust on the heads of the worshippers below, the printers' boys borrowed chairs from the congregation to turn on the gas for the floors above at the meters which the cellars contained, while the gamins outside joined loudly and derisively in the Gregorian chants which issued from the windows. Here the services were carried on with the adjuncts of eucharistic vestments and lights by Father Mackonochie and the faithful band he had gathered round him until February 21, 1863, when the noble permanent structure which the late Lord Addington had built "free for ever to Christ's poor"—as the inscription above the entrance in Baldwin's Gardens tells us—was consecrated by Archbishop Tait, then Bishop of London.

Our text being their vitreous decoration, we may most appropriately commence our analysis of these five imposing temples with some remarks on the various methods of fenestration that have been employed in them. Before doing so, however, the reader must be reminded that, save in one instance Mr. Butterfield was unfortunate in his site, sentiment dictatin it in one case (All Saints), while in the remaining three (St Alban's, St. Augustine's and St. Clement's) he was confronte with that hard "must" which, fortunately, no Gothic architec need fear to obey.

The first two churches presented difficulties which to a les accomplished practitioner might have seemed unsurmountable. These, however, were not only turned to good account by the genius and skill of Mr. Butterfield, but completely neutralised by the scope which they afforded to two of the most distinguished sacred artists of the Early Revival—William Dyce and Styleman Le Strange.

Standing, as St. John's, Hammersmith, does, in its churchyard, with the light freely admitted on every side, none of the expedients which had perforce to be adopted in All Saints and St. Alban's were here necessary.

The west and east ends are each lighted by a rather large window, composed of three trefoil-headed lancets, but which, as well as the circlets by which they are surmounted, are treated in a plate-traceried fashion not often found in the works of Mr. Butterfield

The latter of these windows was filled with stained-glass shortly after the completion of the church in 1859 by Messrs. Lavers & Barraud, but like nearly all the works executed about this period by those artists* it labours under surfeit of positive colour, admirable as are the drawing, the grouping and the hieratic feeling that pervades the whole.

The clerestory, not quite so grandly developed as in the other examples, has couplets of two-light windows, while the isles receive their light from rather broad plate-traceried ancets arranged in pairs beneath a depressed head, and vherein may be seen some of the earliest productions of the Gibbs-Butterfield fabrique, executed as it was between 1863 nd 1873 In these windows thirteenth-century archaism has een unsparingly adopted, but the ensemble, despite some rudities of tincture excusable for the period of their execution, s good because it has been carried out devotionally and on one niform plan The southern range of lancets, commencing ith those in the chancel aisle—lately extended eastward into chapel and equipped with one of those cinque-cento looking ieces of stained-glass of which one would be heartily glad to ee the back—have effigies of the Evangelists and Apostles, S. Paul and Barnabas occupying the western window of the isle, with beneath each a subject from his life treated predellaise. These are balanced in the west window of the opposite isle by Abel and Enoch commencing the series of Old Testament worthies, which filling the northern range are not only later in execution than those opposite, but less archaic in sentiment.

St. Editha, Tamworth. (*Restored by Mr. Butterfield.*)

It is a relief, however, to turn to the amply draped figures in the last clerestory window on the south side of the nave, from the ateliers of Mr. Daniel Bell, who, judging from his recent performances on the aisle walls at St. Matthias, Stoke Newington, is much more deserving of commendation as an exponent of vitreous than of mural decoration. It is believed that Mr. Bell's tinctures in the two figures filling the abovementioned window failed to satisfy the architect of St. John's, and that any intention of completing the series according to this scheme has been abandoned, if one may judge from the glass that has been put into the window next it. Mr. Bell is to be sincerely sympathised with here, as the specimen of the work which he has given us seems, in the opinion of the writer, not only well suited to its position, but as supplying an illustration of that mean between the two extremes.

At All Saints, Margaret Street, local reasons prohibited Mr. Butterfield from fenestrating either the eastern wall of his chancel or the southern one of his nave. The church therefore derives its light from the clerestory, the south aisle and the west end, where there is a very majestic window of five lights, having an inner arch of five foliations. When the scheme of erecting All Saints Church was put into execution, its vitreous decoration was entrusted by Mr. Beresford Hope—one of the most munificent contributors towards its erection—to Henri Gerente, of Paris, but upon the untimely death of that artist in 1849, a year before the foundation-stone of All Saints was laid, the work was followed up with, however, but moderate success, by his less accomplished brother Alfred. When about the year 1857 it came to be fixed in the church, this glass gave such dissatisfaction not only to the architect but to others immediately concerned in All Saints, that after remaining in its position for about twelve years, a portion of it—that in the south aisle—was removed and new glass, the joint production of Mr. Butterfield and Mr. Gibbs, introduced.* This took place during the late sixties, Gerente's glass in the great west window sharing the same fate about twenty-five years ago. Of that artist's work all that now remains is in the window of the baptistery. Judging from this, the removal of his other glass was not to be regretted, though doubtless it was associated with not a few tender memories.

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* As, for instance, the Vincent Novello window (representing St. ecilia) in the eastern aisle of the north transept at Westminster; the st window of St. Sepulchre's Church, Holborn; one in the south ancel aisle of St. Mary's, Stoke Newington; and a piece representg "The Vision of Beatrice" from the Purgatorio in the South ensington Museum.

* One of the last letters received by the writer from Mr. Butterfield bore reference to the stained-glass in All Saints, Margaret Street.

ST. PANCRAS AND BATTLE BRIDGE.*

BATTLE BRIDGE, now very absurdly called King's Cross—for no cross ever stood there—is generally believed to have been the scene of an ancient battle, though writers somewhat differ as to which battle it was. Dr Stukeley, the antiquary, ascribes it to a battle fought between Julius Cæsar and Cassivelaunus, B.C. 54; and he even drew a plan of the supposed camp of the Romans, of which a copy is preserved in Lysons's "Environs of London," in the Guildhall Library. But Lysons says, in justice to Stukeley he had not the courage of his opinion, for he did not publish the plan during his lifetime. Peter Cunningham says, "A battle is said to have been fought here between Alfred the Great and the Danes." Both these conjectures are unsupported by any evidence.

The general tradition, and with some evidence to support it, is that this was the scene of action between Queen Boadicea and Suetonius Paulinus, the Roman general. In Pink's "History of Clerkenwell" we read:—"The name of this locality is supposed to commemorate the famous battle between the Romans, under Suetonius Paulinus, and the Britons, under Boadicea, queen of the Iceni, which was fought near London, A.D. 61."

The position occupied by the Roman general when awaiting the attack of the Britons is described by Tacitus "as having the advantages of a narrow approach, and the shelter of a forest in the rear." The great forest in the rear was evidently the great forest of Middlesex. There is nothing improbable in the supposition that this was the actual scene of that memorable engagement. The Romans had their castra æstiva, or summer camp, on an eminence in the immediate vicinity of this spot. The size of the prætorium was an exact square of about 200 feet. In 1825 a labourer, occupied in digging in the prætorium, turned up a considerable quantity of arrow heads, and shortly after another labourer, excavating a few yards south of the same spot, uncovered a pavement of red tiles about 16 feet square, each tile being about 1½ inch thick, and about 6 inches square. In Hone's "Everyday Book of 1831" are engravings of the prætorium of the Roman camp at Pentonville, and of the old well in the fosse.

In 1680 John Conyers discovered in a gravel pit, not far from Battle Bridge, the skeleton of an elephant, and in the same pit the flint head of a British spear fastened into a shaft of good length. This circumstance affords some confirmation of the opinion that this was the spot where Suetonius Paulinus gained his great victory over the army of Boadicea. This flint head was engraved in a letter by Bagford, the antiquary. It is certain the Romans were assisted by elephants in their battles with the Britons.

In 1842 there was discovered among some fragments of stone in one of the cottages on the east side of Maiden Lane (now York Road) a piece of hard limestone, between 5 and 6 inches in thickness and 12 in width, on which was an inscription commemorative of an officer of the twentieth legion. This legion was one of the four which came into Britain in the reign of Claudius, and contributed to its subjection. The vexillator (signalman) of this legion was in the army of Suetonius Paulinus when he made that victorious stand in a fortified pass with a forest in the rear. Lysons says that at a place called the Brill were to be seen, a few years ago, some remains of what is supposed to have been a Roman camp by Dr. Stukeley, but this is doubtful. It was more probably a British camp. But Dr. Stukeley, with greater probability, supposes Brill to be a contraction of Bury Hill, and mentions other places bearing the same name.

Queen Boadicea was the widow and successor of Prasutagus, king of the Iceni, who died in the reign of the Emperor Nero, and who left by his will his province to be divided between the emperor and his daughters, in expectation by that means of securing Nero's protection for his family, but he was no sooner dead than the Romans seized the whole. On Boadicea remonstrating they ordered her to be publicly whipped and her daughters to be outraged by the soldiers. The Britons now took arms to the number of 120,000, with Queen Boadicea at their head. They sacked, burned and destroyed Camulodunum (now Colchester), and marched to London, and put all they found in it to the sword, and about 70,000 persons are said to have perished on these occasions. Suetonius Paulinus was at that time in Mona (the Isle of Anglesea), and he hastened to London with 10,000 men. A battle was fought, as supposed, on this site, with great valour, when the Romans triumphed. Boadicea, not able to survive so great a calamity, is said to have poisoned herself. A tumulus between the Hampstead and Highgate ponds is traditionally said to have been her burial-place. Thus ended the "British Warrior Queen," whose memory has been so well immortalised in the beautiful poem by Cowper.

The next historical event to which I must claim your attention is that which gives name to this parish. Christianity is believed to have been introduced into Britain about the middle of the third century, St. Alban, the first British martyr, having suffered according to Venerable Bede in 286, and in Foxe's "Book of Martyrs" on June 22, 287.

It would be about this period that the names of our earliest saints would be adopted for the dedication of our first churches; thus the cathedral of London would be dedicated to St. Paul, and that of Westminster to St Peter, and so on. St. Pancras was one of the earliest martyrs of Rome, and a name very likely to be adopted about that period.

The story of this saint may be thus briefly given. Pancratius, or Pancras, was born in Phrygia about 287, of noble parents, and spent the first ten years of his life at Synnada. His mother brought him up with tender care, but when he was nine years old she died, leaving him to the care of Cleonius, her husband. Every day for three months did he and his little boy visit the mother's grave. At the end of that time Cleonius himself died, out of grief for the loss of his wife. On his deathbed he called for his brother and earnestly entreated him to take charge of his little son and educate him as though he were his own. This the uncle faithfully promised to do, and thought the best way to fulfil that wish would be to take Pancratius to Rome, that he might there have the advantages of superior education. It was in the reign of the Emperor Diocletian that they found themselves in Rome. The Christian religion was then the subject of the bitterest persecution. Their bishop or pastor at that time was Marcellinus.

The Emperor Diocletian was a bitter enemy to the Christians, and among those who assisted him was his minister Galerius, a man even more cruel than himself, and who persuaded him to put them all to death. Though Marcellinus expected that his own turn would soon come, he used to go at the dead of the night cheering the desponding.

One night as Marcellinus was engaged in this good work he entered the house of young Pancratius and his uncle—to them he expounded the doctrines of the new faith. They listened and believed, and gradually forsook the worship of Jupiter. The uncle, however, died soon after his conversion, leaving Pancratius alone in the world, and almost broken-hearted. One day, when kneeling beside the body of his dead uncle in earnest prayer, four Roman soldiers entered the room and bade him prepare to enter the presence of the emperor. He arose from his knees and a chain was fastened to his wrists; he was then led to the palace of the Cæsars. The emperor was seated upon his throne when the weak, footsore child was led into his presence, and bitter as he was against the Christians he was moved with pity when he saw the youthfulness of the hero he had ordered to be brought before him. He tried to win him over by promises, but the child remained firm. The emperor then turned to threats, and said he should be killed that very day. It is recorded that pale and trembling at he was, he boldly answered, "That may be, but I dare not deny my Saviour; I dare not worship idols. God will give me strength to die for Him as others have done" "Lead the obstinate boy from my presence," said the infuriated emperor; "take him to the Aurelian Way and despatch him with your swords." It was sunset, and kneeling down with his hands tied behind him, the noble boy died, pierced by the swords of the soldiers. During the reign of the Emperor Constantine the Great a magnificent church was erected over his burial-place. From this church at Rome all others of the same name (including those we have seen to-day) have derived their name.

It was A.D. 290, when St. Pancras was about fifteen years old, that he suffered martyrdom. Can we wonder then that with such a tragic history fresh in their memories, and ending only three years after the martyrdom of St Alban, that the name of St. Pancras should have been selected for the dedication of one of the first churches built in the county of Middlesex by our early Christian forefathers? Of the antiquity of Old St. Pancras Church, Norden, the historian, writing at the end of the sixteenth century, thus speaks of it:—"Pancras Church standeth all alone, as utterly forsaken, old and weather-beaten, which for the antiquity thereof it is thought not to yield to St. Paul's in London; about this church have been manie buildings now decayed, leaving poor Pancras without company or comfort; yet it is now and then visited from Kentish Town and Highgate, which are members thereof, but they seldom come there, for that they have chapels-of-ease within themselves, but when there is a corpse to be interred they are forced to leave the same in this forsaken church or churchyard, where no doubt it resteth as secure against the Day of Resurrection as if it lay in stately St. Paul's." Speaking of this church, Mr. J. G. Waller, the antiquary, writes:—"Wherever we find a place known by no other name than that of the patron saint of its church, I think we may conclude that when the church was first erected there was neither township nor village, but a sparse and scattered population" There are, however, exceptions to this rule, as at St. Albans.

St. Pancras is mentioned more than once in the Domesday

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* A paper read by Mr. W. F. Potter, architect, at a meeting of members of the Upper Norwood Athenæum at the Great Northern Hotel.

Book. The old church and its appurtenances were given by William de Belmeis (nephew of Richard de Belmeis, Bishop of London) to the Dean and Chapter of St. Paul's, to whom they were confirmed by Gilbert Foliot, Bishop of London in 1183, when Fulcherius, the priest, was made perpetual vicar; in the time of his successor, Alexander, the Dean and Chapter granted it with all tithes, &c., to the hospital founded within their cathedral by Henry de Northampton, with the annual reservation of a mark.

After the suppression of the hospital the rectory reverted to the Dean and Chapter. About 1218 the Dean and Chapter, leased this rectory for the consideration of 18 marks to Philip, the clerk, son of Roger de Worcester, while he lived and remained in the clerical state. In 1251 the vicar had all the small tithes and other perquisites, and the parish then contained only forty houses. In Pope Nicholas's taxation in 1291 the rectory is valued at 13 marks. Lysons says that at a visitation of this church in 1251 mention is made of a very small tower, a good stone font and a small marble stone ornamented with copper to carry the pax. The church consists of a nave and chancel, and small tower at west end. The oldest monument it contains is a brass plate inserted in the north wall to Mary Beresford, 1588. Against the south wall is a memorial to Samuel Cooper, the celebrated miniature painter, 1672. The principal hamlets of this parish are Kentish Town (or Kentistoune), where William Burges, Garter King-at-Arms in the reign of Henry V., had a country house at which he entertained the Emperor Sigismund; part of Highgate, Battle Bridge, Camden and Somers Towns. There are four ancient prebendary manors in this parish, namely, Pancras, Cantelows (or Kentish Town), Tothill (or Tottenham Court) and Ruggemur (or Rugmere). In Domesday Book two manors are described, besides that of Totchele (or Tottenham Court). "The canons of St. Paul's hold four hides at Pancras for a manor. The land is of two carucates. The villans employ only one plough, but might employ another. There is timber in the hedgerows, pasture for the cattle and 20*d.* rents. Four villans hold under the canons, and there are seven cottars. In the whole valued at 40*s.* In King Edward's time at 60*s.*"

Lysons says, "I suppose this to have been the prebendal manor of Kentish Town or Cantelows. This name occurs in some of the most ancient court rolls of the Manor of Tottenhall" Domesday also describes the other manors. Tottenhall (or Tottenham Court) is supposed to have been a residence of King John; it stood at the corner of Euston Road, where the Adam and Eve tavern now stands. In 1590 the manor and palace of Tottenhall were demised to Queen Elizabeth for ninety-nine years. So that royalty evidently had a connection with this manor.

There are mentioned in ancient documents four places in the neighbourhood of London noted for images of the Virgin Mary of wonder-making power. They are Croon's Hill, Greenwich; Willesden, Muswell Hill, and Our Lady of the Oak. The last is mentioned in a proclamation of Henry VIII. touching the preservation of game, and must have been between Islington and Highgate. This is now supposed to be the locality known to us as Gospel Oak. An excellent paper on this subject will be found in the fourth volume of the "London and Middlesex Transactions," by Mr. J. G. Waller, who also wrote in the same volume a very descriptive paper on the River Fleet—which is illustrated with a map of the same—from its rise to its fall into the Thames. It passed by Old St Pancras Church, and under Battle Bridge, Holborn Bridge and Fleet Bridge, into the river at Blackfriars. Peter Cunningham says Old St. Pancras Church was erected in 1180, but there is no trace of anything so old about it now. It probably stands on the site of a former one built of wood, and of the material of the adjacent Middlesex forest. The present structure appears to have been erected about the year 1350. The earliest date of the register of baptisms and marriages is 1660, and that of burials 1688.

This church is said to be the last parish church in England in which the rites and ceremonies of the Roman Catholic religion were performed, and the last also whose bell tolled for Mass after the Reformation. It was restored and enlarged by Messrs. A. D. Gough & Roumieu, architects, in 1847, and re-opened for divine service after enlargement, July 5, 1848.

Besides the monuments to persons mentioned inside the church, there are many eminent persons interred in the churchyard adjoining, too numerous to specify, but whose names will be found described in Peter Cunningham's Handbook of London; but among them I must mention William Woollett, the engraver (died 1785); William Godwin, author of "Caleb Williams" (died 1836), and his two wives, Mary Wolstonecraft Godwin, the authoress of "Women's Rights," the mother of Mrs. Shelley (died 1797), and Mary Jane Godwin (died 1841); John Walker, author of "Walker's Dictionary" (died 1807); Jeremy Collier (died 1726); Ned Ward, author of the "London Spy" (died 1731). Jonathan Wild was married to his third wife in this church, February 13, 1719. Bishop Burnet, describing the locality in which Sir Edmund Berry Godfrey's body was found, says "it was in the fields beyond St. Pancras;" the exact locality as we should now describe it was the field beyond Primrose Hill. A very curious character buried at this church was the Chevalier D'Eon; he was born in Burgundy in 1727, and began life as a soldier and afterwards as a diplomatist. He was sent on a mission to St. Petersburg in 1771, when he assumed the female garb for state purposes, and continued to wear it until his death. He died at his residence in Milman Street, May 21, 1810, aged eighty-one years, and his remains were interred in Old St. Pancras Churchyard. After his decease it was discovered by his confessor, what that gentleman never suspected, that the Chevalier was of the male sex.

The poor poet Chatterton was amusing himself one day in company with a friend reading the epitaphs in Old St. Pancras Churchyard, when as he walked on, and not perceiving an open grave in his way, he tumbled into it. His companion ran to his assistance, and as he helped him out told him jocularly he was happy in assisting at his resurrection. Poor Chatterton smiled and replied:—"My dear friend, I feel the sting of a speedy dissolution. I have been at war with the grave some time, and find it not so easy to vanquish as I imagined." In three days afterwards he committed suicide by poison at his lodgings in Brooke Street, Holborn.

St. Pancras, like St. Marylebone, is possessed of two parish churches, the old and the new.

New St. Pancras Church is situated in the Euston Road; the foundation-stone was laid by H.R.H. Frederick, Duke of York, July 1, 1819, and it was consecrated by the Bishop of London, April 7, 1822. The architect was Mr William Inwood, the well-known author of Inwood's "Tables," a work much used by surveyors and estate agents in the valuation of leases and annuities. The model for the church was the Erechtheum at Athens; the steeple is from an Athenian model, the Temple of the Wind, built by Pericles. Its elevation is 165 feet from the ground. The side porticoes are supported by caryatides also taken from Greek models. The whole structure was erected at the cost of 76,679*l.* 7*s.* 8*d.* The pulpit and reading desk are made of the celebrated tree known as the Fairlop oak, which stood in the Hainault Forest in Essex, and gave its name to the fair long held under its branches. Gilpin, in his "Remarks on Forest Scenery," says, "The traditions of the country trace this tree half-way up the Christian era." It was blown down in 1820. A list of the vicars of this parish will be found in Lysons's "Environs of London,"

Attached to this parish is the St. Pancras burial-ground, now called the St. Pancras Public Garden. It was established immediately northward of the Foundling Hospital, pursuant to 10 Anne, c. 11. It was closed against interments in 1853. Here was buried in her husband's grave, Anne, sixth and favourite daughter of Richard Cromwell, protector; she died December 7, 1727, in Bedford Row. She was married to Dr. T. Gibson, Physician-General to the Forces. The tomb can be identified by the carved arms which it bears of Cromwell and Gibson, per pale. Robert Nelson, author of "Fasts and Festivals of the Church," is said to have been the first buried here. Here, too, were interred Zachary, father to Lord Macaulay; Jonathan Richardson, the painter; and Dr. John Campbell, editor of the "Biographia Britannica."

The name of Battle Bridge is derived from a small bridge over the River Fleet which formerly existed at this spot, but was replaced by an arch of considerable length. Mr. Crosby says, "Battle Bridge is nothing more than a large brick arch 12 feet long and 14 feet wide, to which has been joined similar arches, so much alike that the same date might be affixed to all of them. The probability is that the old bridge was of wood, and when destroyed was replaced by a common brick arch like the present sewer." The name of this locality was altered to King's Cross in 1830, through a structure being erected at that time to the memory of George IV. Its architectural features have been made the subject of severe sarcasm by Welby Pugin in his "Contrasts; or, a Parallel between the Architecture of the Fifteenth and Nineteenth Centuries." It is figured in one of the plates of that work side by side with the beautiful Gothic cross at Chichester. An illustration of it is also given in Cassell's "Old and New London." It was not destined to stand for many years; it was pulled down in 1842. During its short existence a contemporary newspaper says, "We cannot tax our memories with the uses to which the building itself has been appropriated —now a place of exhibition, then a police-station, and last of all (to come to the dregs of the subject) a beer-shop."

This parish is so large that it embraces many public buildings, from the Orphan Working School at Haverstock Hill to the Foundling Hospital in Guilford Street; London University, Royal Veterinary College, Russell Literary Institution, &c., but its mightiest structures are undoubtedly the great railway termini that have been erected of late years. The London and North-Western terminus at Euston Square is said to have cost 150,000*l.*, and was built from the designs of Mr. P. Hardwick, R.A., and opened May 1849.

The Midland terminus was constructed by Mr. William

Barlow, C.E., and is fronted by the handsome hotel designed by Sir G. Gilbert Scott, R.A. The Great Northern terminus was designed by Sir William Cubitt, C.E., and is remarkable for possessing the largest brick arches in the world. So proud were the directors of the company of this brickwork that, out of compliment to their engineer, they had the Great Northern Hotel erected on one side instead of in front, as first intended, so that the brick arches should not be hidden. It is said that most of the bricklayers in London turned out to see the "centreing" or framework taken down upon which the arches were constructed.

In conclusion, I must thank the Rev. H. L. Paget, M.A., and the Rev. R. Eden, M.A., the vicars of the two churches we have visited. I always find the clergy willing to assist in promoting objects of education and of rational recreation.

ARTISTIC COPYRIGHT.*

We have five Acts. Three deal with engraving, one with sculpture, one with painting, drawing and photography, between which there seems to be little or no relation. We have, first, three terms of duration of copyright—twenty-eight years for an engraving, fourteen for sculpture, with a second fourteen if the artist be alive at the end of the first; life and seven years for a painting, drawing or photograph.

There are two different relations of the artist to his copyright. The sculptor's right to sell his work and retain his copyright has never been questioned. The retention of the painter's copyright is made to depend upon the signing of a document by the purchaser of his work.

Two modes of treating artists as to registration also exist. The engraver and the sculptor comply with the law by putting their names and dates on their work, and they are not required to register. The painter cannot protect his copyright without registration; while registration itself, as it is now required, is a snare, a delusion and a pitfall. Designed to give the public information as to ownership and duration of copyrights, the uncertainty of its operation simply results in the prevention of information on these very points.

And now we come to the consideration of the proposed new Artistic Bill. As its memorandum states, it "is intended to simplify and amend the law relating to copyright in artistic works." Its main features are:—

1. To secure greater uniformity in the terms and conditions of copyright

2. To reserve to the artist—with certain exceptions—the copyright until expressly assigned or disposed of by him.

3. To make registration of copyright—and of all dealings therewith—with certain exceptions compulsory.

4. To improve the remedies for infringement.

To artists its most important section is that dealing with the passing of the copyright from the author. It is proposed that the copyright shall remain with him notwithstanding the sale or disposition by him of the work until expressly disposed of by him in writing. The copyright of a work of art and the work itself are two such distinct properties, of which it occasionally happens that the copyright is far the more valuable of the two, that it is hardly necessary to spend time in showing the injustice involved in making the two properties pass as the result of the sale of the work. The report of the Royal Commission recorded the fact that "the artists as a body are unanimous in their desire to have the copyright reserved to them by law," and that desire is as strong to-day as it was when, the Commission recommending otherwise, the Royal Academy at once entered its strong protest to the Government against any other method of dealing with the artist's copyright The Bill proposes that the purchaser of a work of fine art should not thereby acquire the copyright unless he expressly contracts so to do. And here two questions naturally occur:—

When a portrait is painted on commission, is the artist to retain the copyright?

He is, unless the contrary is expressly stipulated. And the person giving the commission can always stipulate as to the copyright, if he desires it; but in order to protect such a person the Bill provides that in this case, although the copyright remains with the author, he may not, without the consent in writing of the owner of the portrait, reproduce it in any way. This clause restricts the exercise by the artist of his copyright in the interest of the owner of the portrait, but it enables him to veto the issue of bad reproductions of his work, which might injure his reputation.

The second question is:—Retaining the copyright of a work he has sold, may an artist repeat the work to the injury of the purchaser? Under the present law, with the vanishing copyright, the artist may repeat the subject as often as he pleases, and I remember a very interesting discussion between two eminent picture collectors before a well-known picture hanging in the gallery of one of them as to which of them owned the original, they having both bought the same subject from the painter. Under the new Bill this cannot happen. Replicas which could interfere with the identity of the original work are forbidden to the artist, though he retains the copyright. This is in the public interest.

The next change of importance proposed by the Bill concerns the terms of copyright.

There are two terms of copyright conferred by the Bill:—

1. For an original work of fine art, the life of the author and thirty years after his death.

2. For a work of fine art made by one person from the design of another, for a photograph, for a cast from nature, thirty years from the first day of the month of registration.

There can be no kind of doubt that under the existing Act the artist is placed in a position of great disadvantage when compared with the photographer, and the proposal of the new Bill is to do away with those disadvantages, and, taking into consideration the differences which exist between various forms of art and photography, to devise a term of copyright protection which shall meet the needs and circumstances of all of them without injury to any.

Works of art divide themselves naturally into two classes, the division between which is an intelligent one and readily perceived.

An original work of art is, from its inception to its completion, the work of the artist, imagined and thought out by his brain, and embodied in some graphic or plastic form by his hands. The highest art is the expression of a thought or feeling in forms suggested by nature and put into shape with the skill of the craftsman. Art and nature are quite distinct things. Art is nature that has passed through the alembic of the artist's brain, and has been embodied by his hands; and there is a clear distinction here between such original work and the translation of such works after they have been produced into some other form by engraving or other similar process or the mere reproduction by mechanical means, like the casting of simple natural forms; this is a distinction not of better or worse, but merely of kind, and this difference of kind is of vital importance. The man who works with high artistic aims has almost always to work and wait for long and perhaps weary years before he commands his public. The painter, the sculptor, the inventive engraver, works not for the public but for himself. He works at subjects that please himself, and in a manner which he alone approves. He has to educate his public before he can reap his reward, often he never reaps it, and still more often it is not till he is well on his career and close upon the end of his life that his works have any copyright value. The photographer, the translator engraver, who mainly works on commission, enters upon his harvest at once, and the difference of terms proposed in this Bill is to give the children of the artist some chance of reaping what the father in his lifetime failed to win.

The difference in this and other respects between the photographer and the painter was recognised by the Royal Commission, who themselves recommended the proposed difference of terms in the following words:—

"We therefore propose that the term of copyright for all works of fine art other than photographs shall be . . . the life of the artist and thirty years after his death." [C. 95.]

"Photographs, however, present some difficulty. At the present time they are coupled by Act of Parliament with paintings and drawings, and are subject to the same law; but as we have before pointed out, we believe this circumstance arose merely from the fact that before 1862, when the Act was passed, there was no copyright protection for either of these subjects, and it was then thought right that photographs should be protected as well as other works of art. On consideration, however, it will be seen that photographs are essentially different from paintings and drawings, inasmuch as they more nearly resemble engravings and works of a mechanical nature by which copies of pictures are multiplied indefinitely." [C. 118.]

"We propose that the term of copyright in photographs should be thirty years from the date of publication." [C. 119.]

But, it must be asked, does the proposed extension of terms to the artist do injustice to anyone? At present photographs have life and seven years of the operator, the engraver twenty-eight years, the caster from nature fourteen, and a possible other fourteen years. It is proposed to give to each a fixed term of thirty years. At present the photographer has an uncertain term which may end in seven years and a day, and I am not aware that anyone has objected that the term of thirty years is not as good, if it be not better, than the uncertain life of the operator and seven years. With the other two cases the term is an actual extension on what they now enjoy. In considering this question it is well to look abroad and see how it is dealt with in other countries.

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* From a paper read by Mr. Edwin Bale before the Society of Arts, and published in the *Journal*.

In France the artist has a copyright for his life and fifty years. A photograph has not of necessity a copyright at all; but if it can be shown that it is artistic in its character, it can claim protection as a work of art. In Germany, Austria, Hungary, Norway, Sweden, Denmark, Spain, Portugal, Switzerland, the artist's term varies from life and twenty years to life and fifty years. The term for photographs is a uniform one of five years only.

Registration is the next important matter dealt with in the Bill. The primary object of this is to afford information to the public as to the ownership and duration of copyright. Under the present Act the owner of a copyright must register if he wishes to take proceedings for an infringement; but in practice a large number of copyrights go unregistered. The public, who are unversed in the ins and outs of the law, do not understand this; and indeed those who do are in little better position. You want to find particulars as to some work, and you search the register: there is no entry. Knowing the condition of the law which causes so many copyrights to lapse, the presumption is that the work is within the "public domain;" and if so, it is actually public property, and anyone may use it. At the same time, you know that if you do it is at your peril, for an unknown and undiscoverable copyright owner may suddenly appear out of space, and having registered his work after your publication may obtain an injunction and stop your work. Now it must be manifest that to leave things at a loose end like this is fatal. Registration must either be abolished and the public left without pretence of information, or it must be made compulsory. Once more one looks back to the report of the Royal Commission, and this is what we find:—

"We are satisfied that registration under the present system is practically useless, if not deceptive." [C. 137.]

"We have been satisfied by the arguments in favour of registration, that it is advisable to insist upon it and that it should be made more effective and complete. To this end it should be made compulsory." [C. 138.]

This recommendation is embodied in the Bill.

But the Bill exempts from registration the copyright of an original work of fine art so long as it remains in the possession of the author, but should he dispose of it the person to whom it is assigned must register. The reason for this is simply that as under the Bill the copyright is always vested in its author until disposed of, if there is no entry of a work the public will know that the copyright is still in the hands of the artist and will apply to him for information, and this method is made effective by the compulsion to register within six months after it leaves his hand.

But the onus of registration remains with photographers, engravers and others, who under the Bill have a fixed term of copyright. This becomes a necessity, because this term starts from a certain date. Under the Bill it is date of registration, and the public have a right to know when that term begins and ends, and in England registration is the only accepted means of affecting this. In foreign countries a system is adopted whereby photographs have to be issued stamped upon the face with the name of the firm to whom they belong and the date of original issue, so that the public may see at a glance how many of its five years have expired. There is a special reason why in the public interest photographs should have a fixed term which should be registered, a reason which does not apply to original works of fine art.

Under the present law the copyright of a photograph is vested in the operator for his life and seven years; but, assuming that the copyright is registered in the name of the operator, what means has the public of knowing anything about him? He is an employé, unknown to the public, who passes maybe from the service of one firm to another, and passes ultimately away, and even the person who employed him may know nothing of his end. It is probable that at the present moment there are thousands of photographs upon the market in which copyright is claimed, the rights in which have long since expired under the terms of the present Act. The present Act is, and any Act giving life and a term of years to the photographic operator must be ineffective, owing to the conditions of the photographer's business. That this should be so is scarcely in the public interest.

Turning once more to the report of the Royal Commission we find after the proposal of compulsory registration—

"We recommend that registration of paintings and drawings should not be insisted on so long as the property in the picture and the copyright are vested in the same person, but that if the copyright be separated by agreement from the property in the picture there should be compulsory registration." [C. 158.]

"With regard to such works as engravings, prints and photographs . . . We think that they should be subject to compulsory registration." [C. 159.]

I have put before you the main features of the Bill. There are others I can only mention:—

The Bill enables an American to secure copyright in this country. At present he cannot do so, while we can secure copyright in America.

It attempts to simplify and make clear the relation between an employer and his assistant whether he be employed to make a photograph, or to assist in carrying out a work of art, in which cases it is proposed that the copyright remain with the employer.

It defines more clearly the relation between the publishers who employ an artist to draw or a photographer to photograph for publication. It amends and strengthens the provisions for repressing the commission of fraud, and gives to the print-seller, the photographer and fine art publisher, powers of which he has long felt the need, and for want of which he has been largely at the mercy of the pirates, viz. power of search and seizure of pirated copies in houses and shops and on hawkers.

These are powers which were also recommended by the Royal Commission.

In so far as they can claim to be works of art the Bill protects the drawings of the architect and the designs of the art worker in all materials. It does not directly concern itself with international copyright, nor with the Berne Convention, though indirectly it touches both, and these subjects are far too wide for me to enter upon.

I have tried in the time at my disposal to give you a brief sketch of the rise and progress of artistic copyright, to show you the weak spots in the present state of the law, and the reasons for the chief proposals made in the new Bill now before Parliament. As a matter of fact it is a subject which concerns pounds, shillings and pence only; it is a mere question of business; and yet I know of no question into which more sentiment can be and is imported. And one knows what a weighty factor is sentiment. Its introduction, however, only interferes with a true perception of the real matters which have to be considered; but painters, and sculptors, and engravers, and perhaps I shall not be far out if I add photographers, have all a good deal of sentiment about them Sentiment is a fine thing, it belongs to the highest in man, but it is out of place in such a mere matter of business as copyright. It is as a matter of business that the Bill will be dealt with by the Committee of the House of Lords, and as a business measure it will have to pass through the fire of criticism not only before the committee but before Parliament. And only if it can stand this test will the committee which is answerable for its existence feel they have succeeded in that which was their main object in framing the measure.

EXCAVATIONS IN THE FORUM.

In a letter to the *Times* Professor Lanciani writes:—In the remarkable article on the excavations of the Forum, my esteemed friend Professor Richard Norton, director of the American School of Classic Studies in Rome, speaks of a late road in front of Constantine's basilica "that Lanciani has mistaken for the Sacred Way."

As I have mistaken nothing of the kind, and as the question refers more to a point of great interest in the management of archæological excavations than to a personal divergence of opinion, I beg leave to make the following brief statement.

In my last volume on the "Ruins and Excavations of Ancient Rome," pp. 181 and 206, I have distinctly stated that the course of the Sacred Way underwent at least three changes in Imperial times, the first after the fire of Nero, A.D. 65, the second after the fire of Commodus, A.D. 191, the last after the fire of Carinus, A.D. 283. Each of these three calamities gave rise to a new *piano regolatore*.

The damages of the last fire of Carinus were made good by Diocletian and by Maxentius. Diocletian restored the western half of the burnt district (Basilica Julia, Curia, forum of Cæsar, &c.), and Maxentius the eastern (Temple of Venus and Rome, Basilica Nova, Heroon Romuli, &c.). As far as the Sacra Via is concerned, this is what Maxentius did:—He spread the rubbish of the fire on the spot, raising the level of the ground by several feet, and burying whatever traces were left of the gutted buildings, through which passed the old narrow, crooked Sacred Way, and on the newly-made ground traced the new Clivus Sacræ Viæ, which is the one which has come down to us.

It was partially discovered in the excavations of Constantine's basilica in 1818 (compare Nibby's "Roma Antica," vol. ii., p. 249), and completely excavated under my personal supervision between 1878 and 1882. I have officially described the find and illustrated it with maps and diagrams in the "Notizie degli Scavi," 1879, p. 14, plate VII., p. 113; 1882, p. 216, plates XIV.-XVI.

To this Clivus ought to have given the title of "pulcherrima inter Romanas plateas," which the biographer of Caracalla bestows on the Via Nova Antoniniana.

It was a noble street indeed, running between the Heroon Romuli and the basilica of Constantine on one side and the

Porticus Margaritaria on the other, in a perfectly straight line for the distance of 181 metres as far as the Temple of Venus and Rome, and then turning at a right angle in the direction of the Palatine, as shown in sheet XXIX. of the "Forma Urbis."

This noble avenue, this Sacred Way of the late empire (its classic name was certainly not changed by Maxentius), this witness of the last three centuries of Roman life, measured 23 metres across from building to building, and 12·35 metres between the side-walks. The one running along the Porticus Margaritaria is 8·20 metres wide and encumbered by many monuments, such as fountains, hemicycles, "excubitoria," &c.—all post-Maxentian—mixed up with older relics (altars, pedestals, shrines), which must have been raised to the new level.

This most beautiful specimen of the architectural and engineering skill of the third century is no more if we except a short section in front of the Heroon Romuli, which is also destined to disappear. It has been obliterated to lay bare the Sacred Way and its surroundings of an earlier date. All we have left to remember it are the official descriptions and the official plans published in the "Notizie degli Scavi" for 1879 and 1882, and repeated in sheet XXIX. of my "Forma Urbis."

This process of suppressing one archæological stratum for the sake of another is rather dangerous, as proved by the passage in Professor Norton's letter in which I am accused of having "mistaken a late road (*sic*) for the Sacred Way."

THE LONDON BUILDING ACT.

ON February 22 a case under the London Building Act, 1894, and which related to the construction of chimneys from coppers in rear of workmen's dwellings, was heard at the Worship Street Police Court before Mr. A. R. Cluer, magistrate.

Mr. A. Payne, district surveyor of East Hackney, South and North Bow, summoned Mr. H. I. Cohen, 1 Finsbury Circus, E.C. Defendant, who is builder and owner, had constructed coppers in rear of 57 Lamprell Street, North Bow, a two-storey dwelling-house in flats for the working classes, the upper and lower storeys being separate tenements, with chimneys formed of drain pipes carried up past the balcony of the upper flat, and to about six inches above the roof. The district surveyor required them to be carried up in brickwork at least 4 inches thick throughout to a height of not less than 3 feet above the roof, as required by section 64 (12). A notice of irregularity was served in September last. After hearing the evidence the magistrate made an order that the chimneys were to be carried up in 4-inch brickwork to a height of 3 feet above the roof in accordance with the section, in fourteen days, and defendant to pay 12*s.* costs. The same defendant was also summoned for constructing similar pipe chimneys in rear of Nos. 59 and 61 Lamprell Street, in which cases the pipe flues were taken in front of the corner of the windows on each storey. The magistrate made an order to amend, with 12*s.* costs in each case.

GENERAL.

Mr. John Giles, architect, of the firm of Giles & Gough, died on the 20th ult. at the advanced age of sixty-five.

At a General Meeting of the Royal Society of Painters in Water Colours, Mr. Walter Bayes was elected Associate of the Society.

Mdlle. Taniers has bequeathed 150,900 francs to found a school of architectural design at Paris, which is to bear the name of the late M. Dubreuil. The whole of her legacies to Paris amount to 5,000,000 francs.

The American Institute which is being established in Paris will be opened in the beginning of next month. The building, which will be used until the permanent building is erected, contains studios, rooms for study and reception-rooms. A collection of photographs from the frescoes by Paul Veronese at Fanzolo has been presented to the committee.

The Society of Miniaturists will hold its annual exhibition of members' work at the galleries of the Royal Institute of Painters in Water-Colours, Piccadilly, early next month.

Mr. Peter Schuyler Bruff, C.E., died on Saturday last in his eighty-ninth year. He was consulting engineer to the Great Eastern Railway Company during several years.

The Gladstone Memorial, of which Mr. Thornycroft is sculptor, is to be placed on a site to the west of St. Clement Danes Church. The base is to be cruciform, measuring on the plan submitted about 26 feet every way with a pavement round it about 6 feet wide. The superficial area of the ground required for the structure will be about 500 feet, or including the pavement about 1,100 feet.

The Gainsborough Urban Council have resolved to send a circular letter to all their contractors warning them that any commissions given to the Council's officials would have the effect of closing the account.

The Court of Common Council have decided to expend 48,600*l.* in the purchase of freeholds of property in Fleet Street, Fetter Lane, Lower Thames Street and Threadneedle Street, for the purpose of carrying out improvements.

The Dublin Artisans' Dwellings Company have during the past year erected cottages in the Harold's Cross district. 168 houses were contracted for; 52 were finished in 1898 and 78 in 1899, leaving 38 to complete the contract.

The Swansea Town Council propose to expend 10,000*l.* on alterations in the local law courts.

Mr. E. S. Shepherd will on Monday begin a course of Cantor lectures at the Society of Arts on "Photography of Colour."

Lord Pirbright has presented a site adjoining the land he has already given at Bisley for the purpose of erecting a chapel and hospital for the inmates of Princess Christian's Homes for Disabled Soldiers, Sailors, Yeomanry and Volunteers.

Temporary Buildings are to be erected at Millbank to accommodate the officials employed in arranging the census returns.

Lord Windsor has been appointed by the Treasury to be a trustee of the National Gallery in the place of the late Sir Henry Tate.

The Liverpool Architectural Society will hold its fifth ordinary meeting of the fifty-second session at the Law Library, 41 Castle Street, on Monday next, March 5, at 6 P.M., when a paper will be read by Mr. A. Saxon Snell, F.R.I.B.A., on "Public Baths and Wash-houses."

The Next Ordinary Meeting of the Society of Engineers will be held on Monday next, March 5, at the Royal United Service Institution, Whitehall, when a paper will be read, entitled "The closing of Breaches in Sea and River Embankments," by Mr. Richard F. Grantham, M.Inst.C.E., F.G.S.

A Painting by the late Sam Bough, R.S.A., "Dumbarton and its Building Yards," was sold in Glasgow on Tuesday for 525*l.*

A Meeting of the Northern Architectural Association will be held on Wednesday next, March 7, at 7.30 P.M., in the lecture theatre of the Mining Institute, Westgate Road, Newcastle.

The Late Mrs. Barton, formerly of Corsley House, near Warminster, bequeathed 10,000*l.* for the erection of a church or a chapel-of-ease and for its endowment at Temple, in the parish of Corsley, as a memorial to her late husband and son.

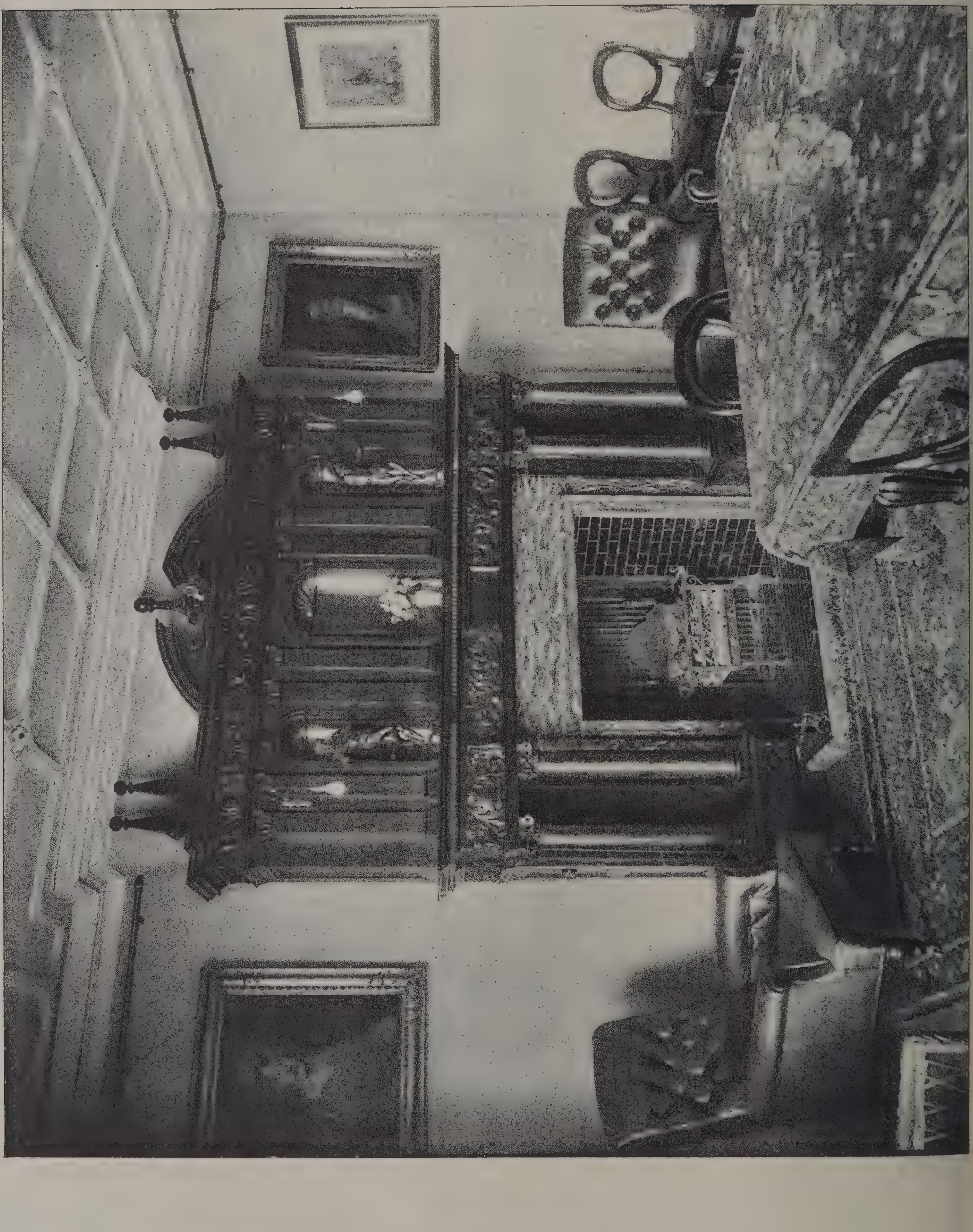
Lord Kelvin, hon. colonel of the corps, will preside at the "send-off" dinner which is to be given next Saturday at 7.30 P.M. at Prince's Restaurant, Piccadilly, to the active service contingent of the Electrical Engineers (R.E.) Volunteers.

Mr. John Hay, S.S.C., gave on the 21st ult. a lecture before the members of the Forfarshire Society on "Castles and Mansions in Forfarshire." He began with describing Dudhope Castle and Mains, near Dundee, and dealt in particular with the group of castles at one time connected with the family of Lindsay. Mr. David Anderson, advocate, also delivered a lecture on "Scenes and Characters of Old Edinburgh."

Professor Ridgeway has offered to the University of Cambridge a very valuable and interesting collection of Irish antiquities which has been formed during the last seventy years by Mr. Thomas R. Murray, Blundell House, Edenderry, King's County. Mr. Murray has accepted 150*l.* for the collection, on condition that it shall be for ever kept separate from the other collections in the Museum of General Archæology and Ethnology under the name of the Murray collection, and that the sets of objects from separate graves or found otherwise associated shall never be broken up or divided. The money for the cost of the collection and the expense of its removal to Cambridge has been contributed by the Cambridge Antiquarian Society and other donors.

The Photographer's Note Book.—The glorious sun, as Shakespeare says, can stay in his course and play the alchemist: but with all his greatness, or because of it, there is an advantage in keeping a record of his proceedings. The convenient note book which Messrs. Marion & Co., of Soho Square, have prepared enables a professional or amateur photographer to keep an historical record of a plate without any inconvenience. A great many formulæ and tables by Sir David Salomons, Bart., are given, which will be found of much use. For all who wish to follow a systematic treatment of plates the note book is indispensable, for the entries in it will be a protection against the empiricism which is too prevalent among photographers.

The Architect, Mar 2nd 1900.



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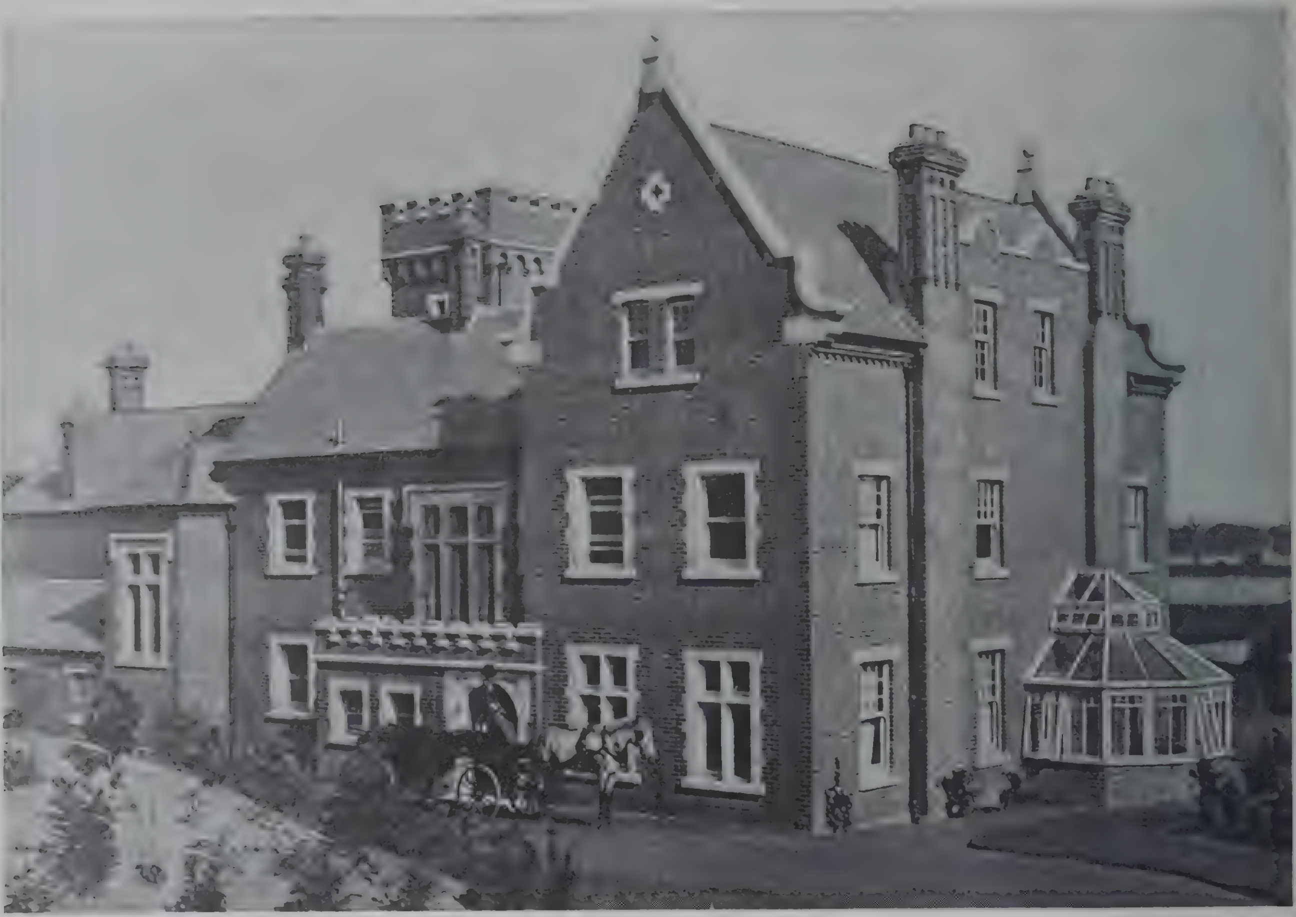
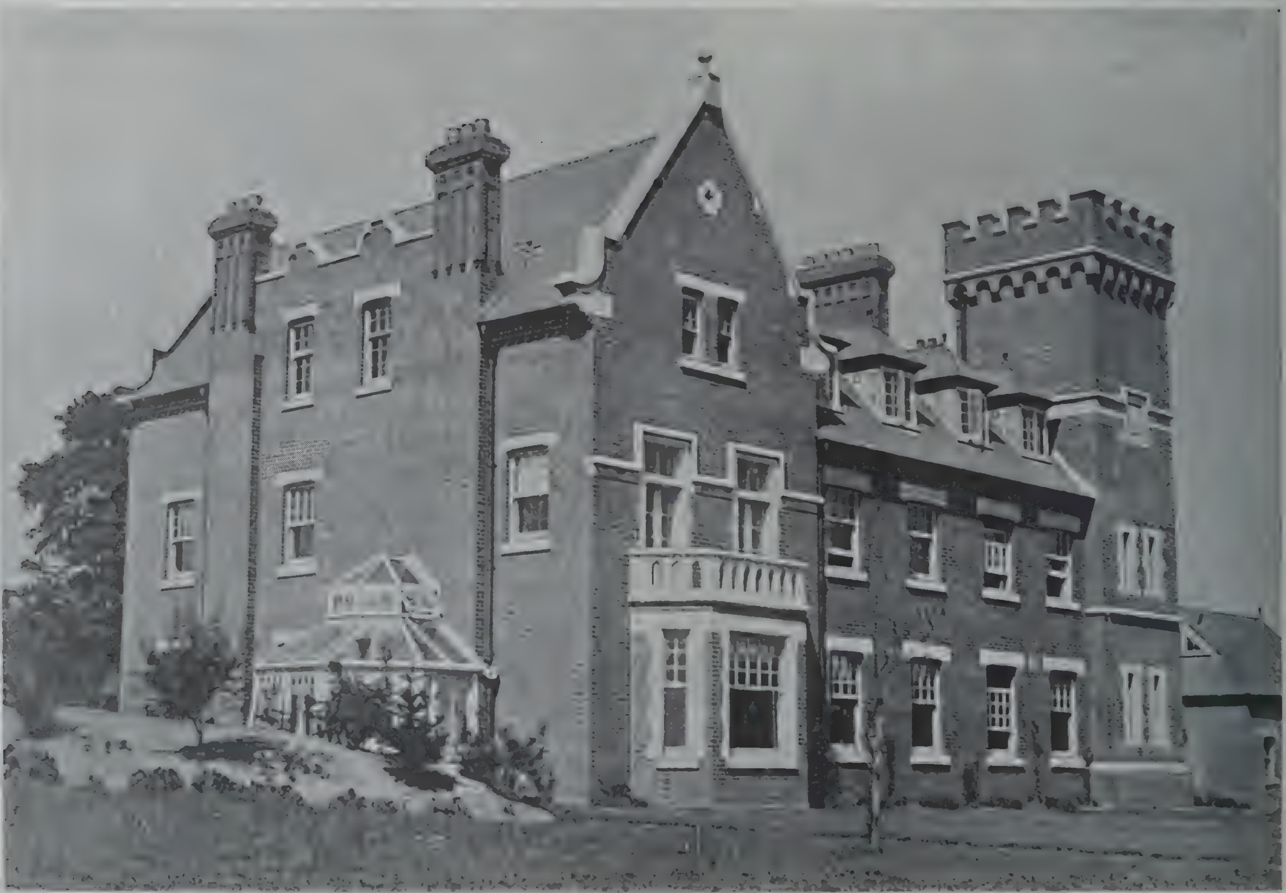
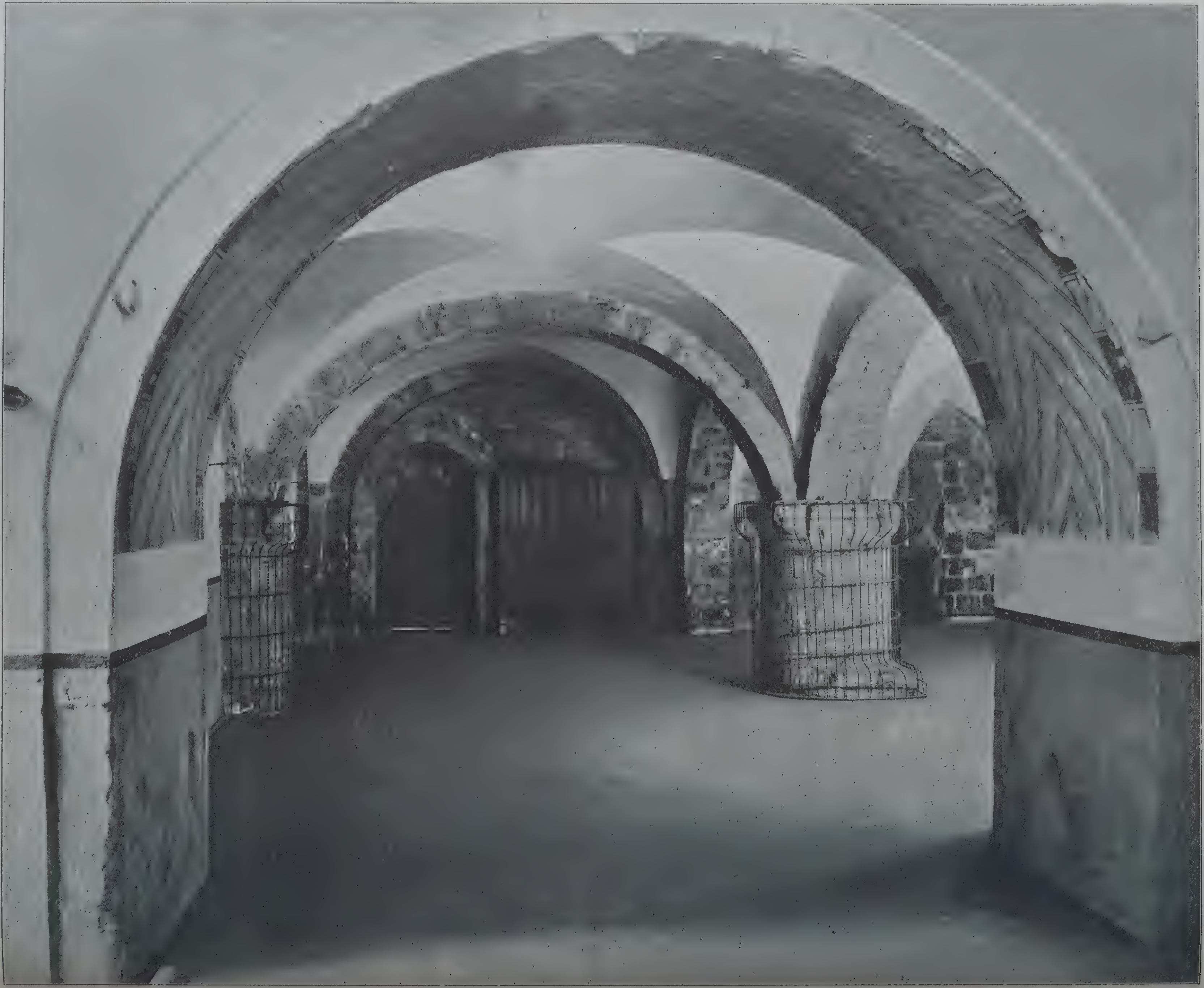




RESIDENCE FOR E. J. HIBERT, ESQ., AT OULTON, LOWESTOFT.

WILLIAM C. STREET F.R.I.B.A. Architect.



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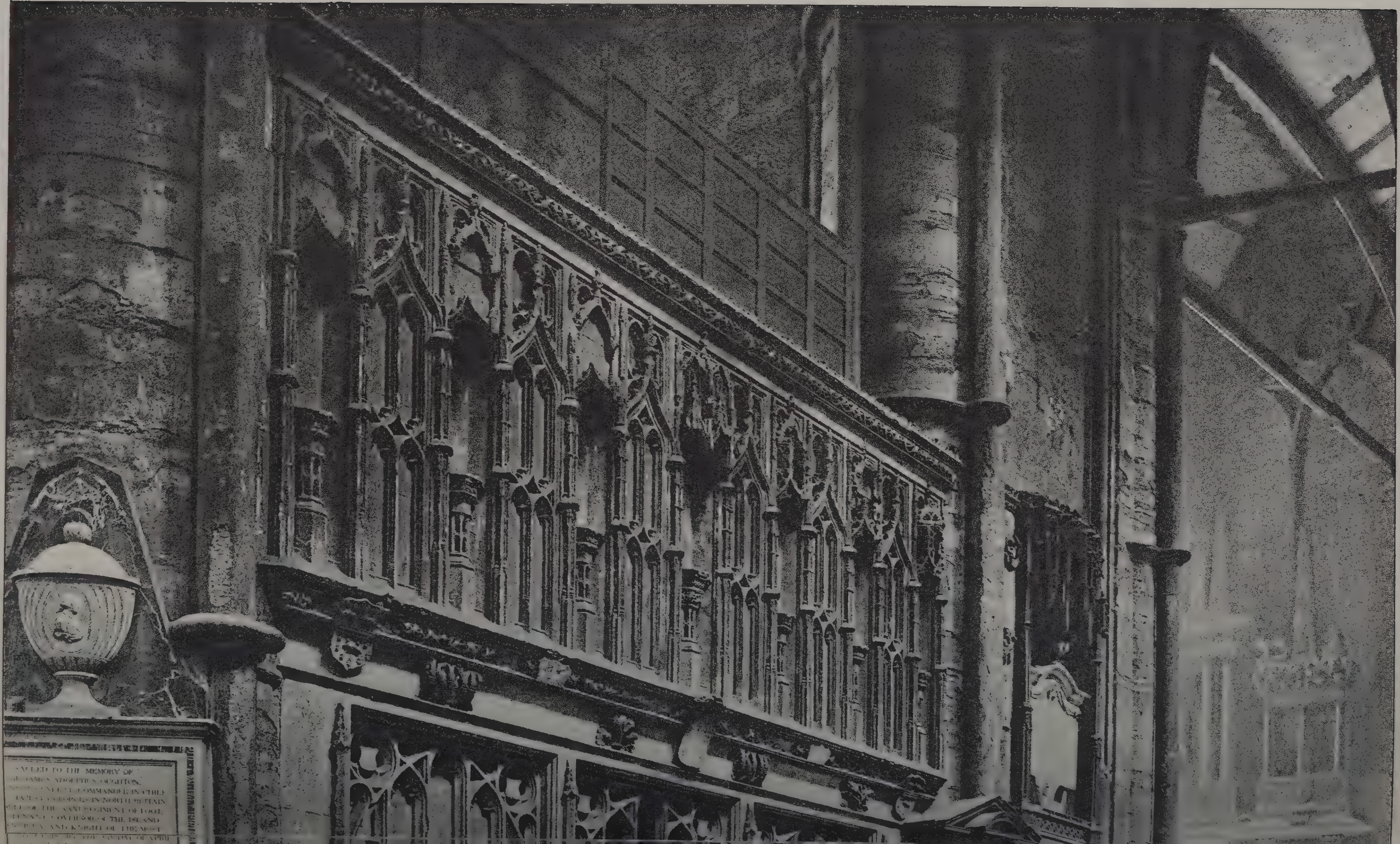
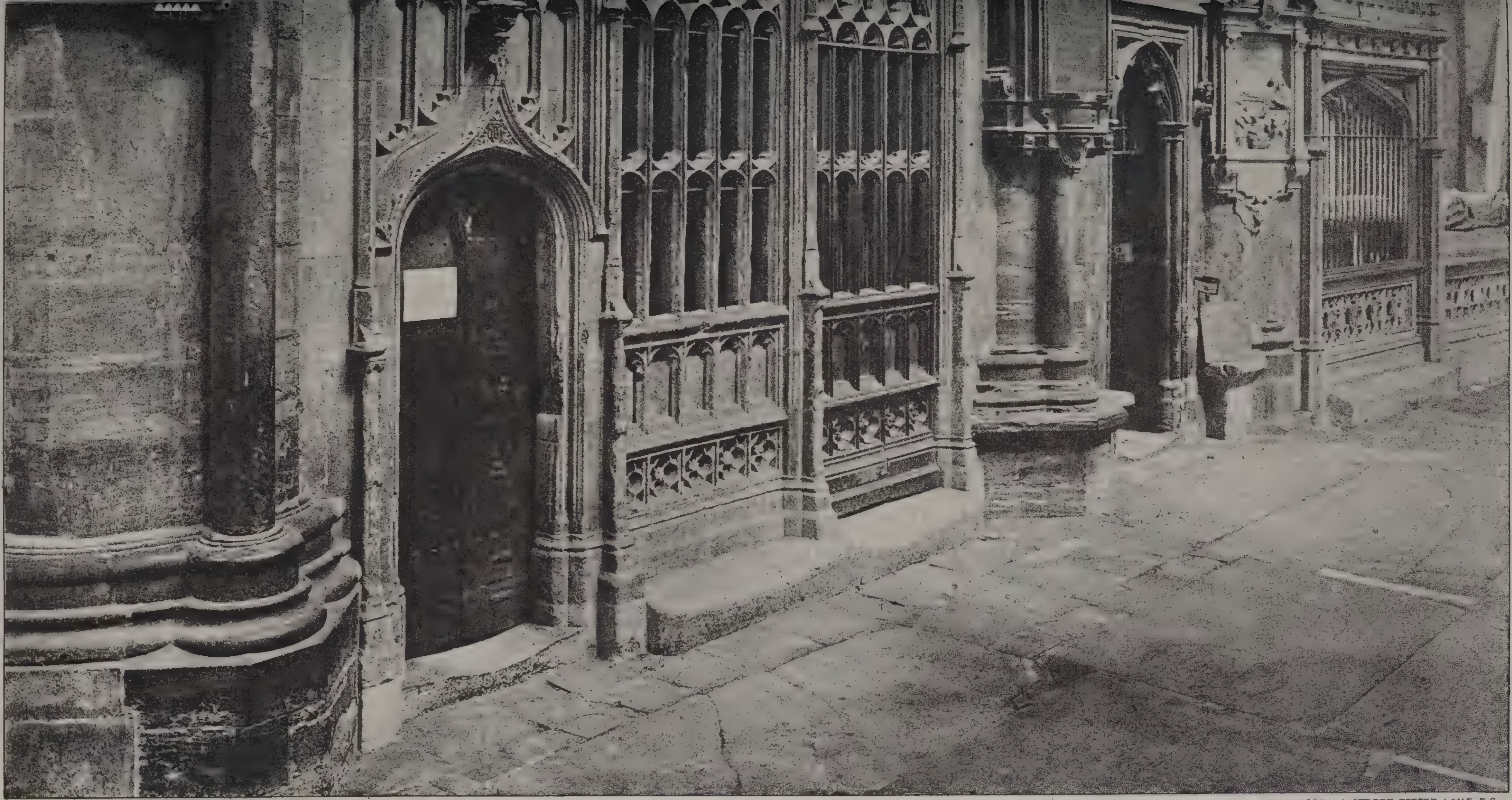
WESTMINSTER ABBEY. No. 24.

The Architect, Mar 2nd 1900.





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Westminster Abbey, No. 23.

Bishop Islip's Chantry, in North Ambulatory.

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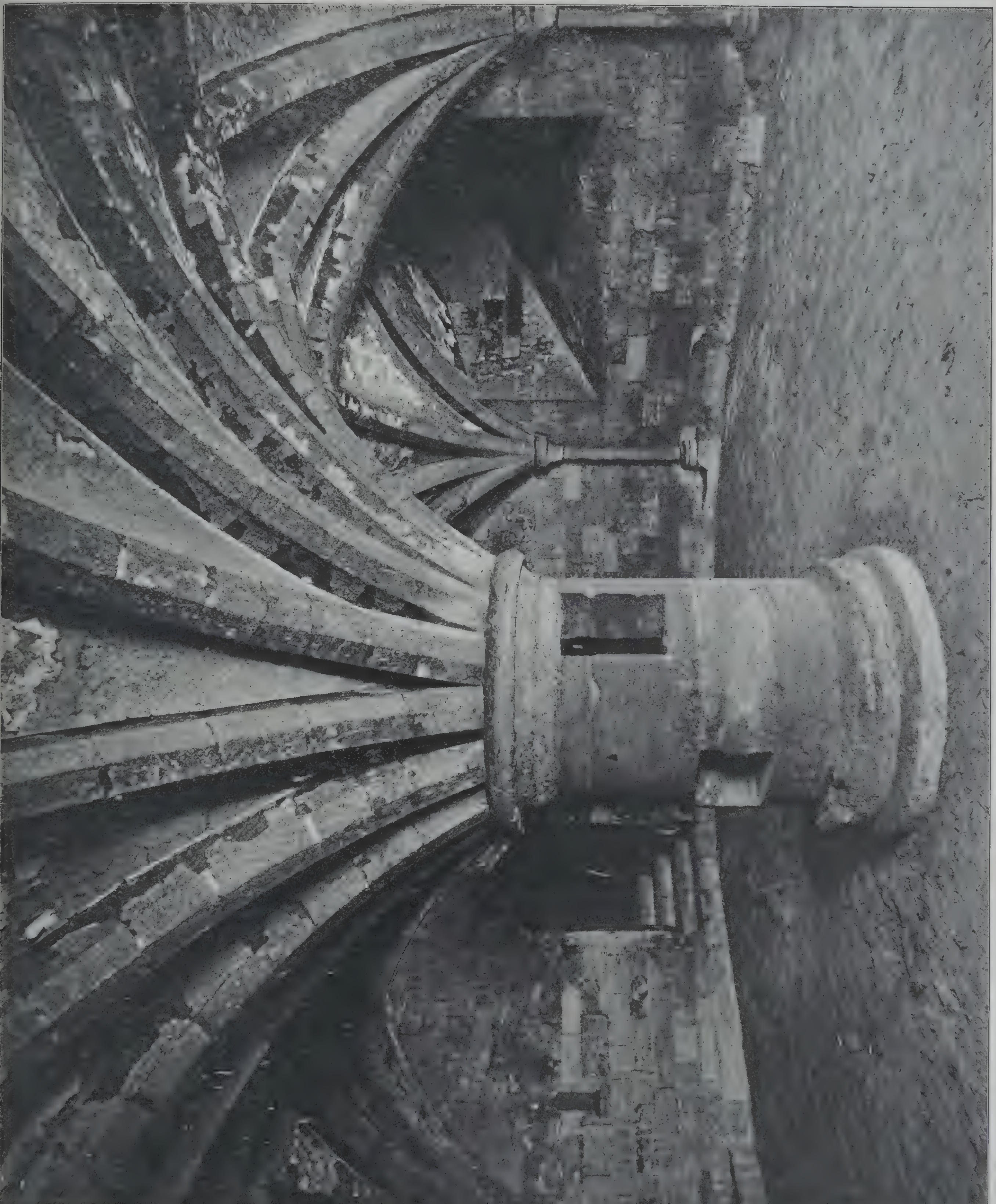

WESTMINSTER ABBEY, No. 25.
CRYPT UNDER THE CHAPTER-HOUSE.

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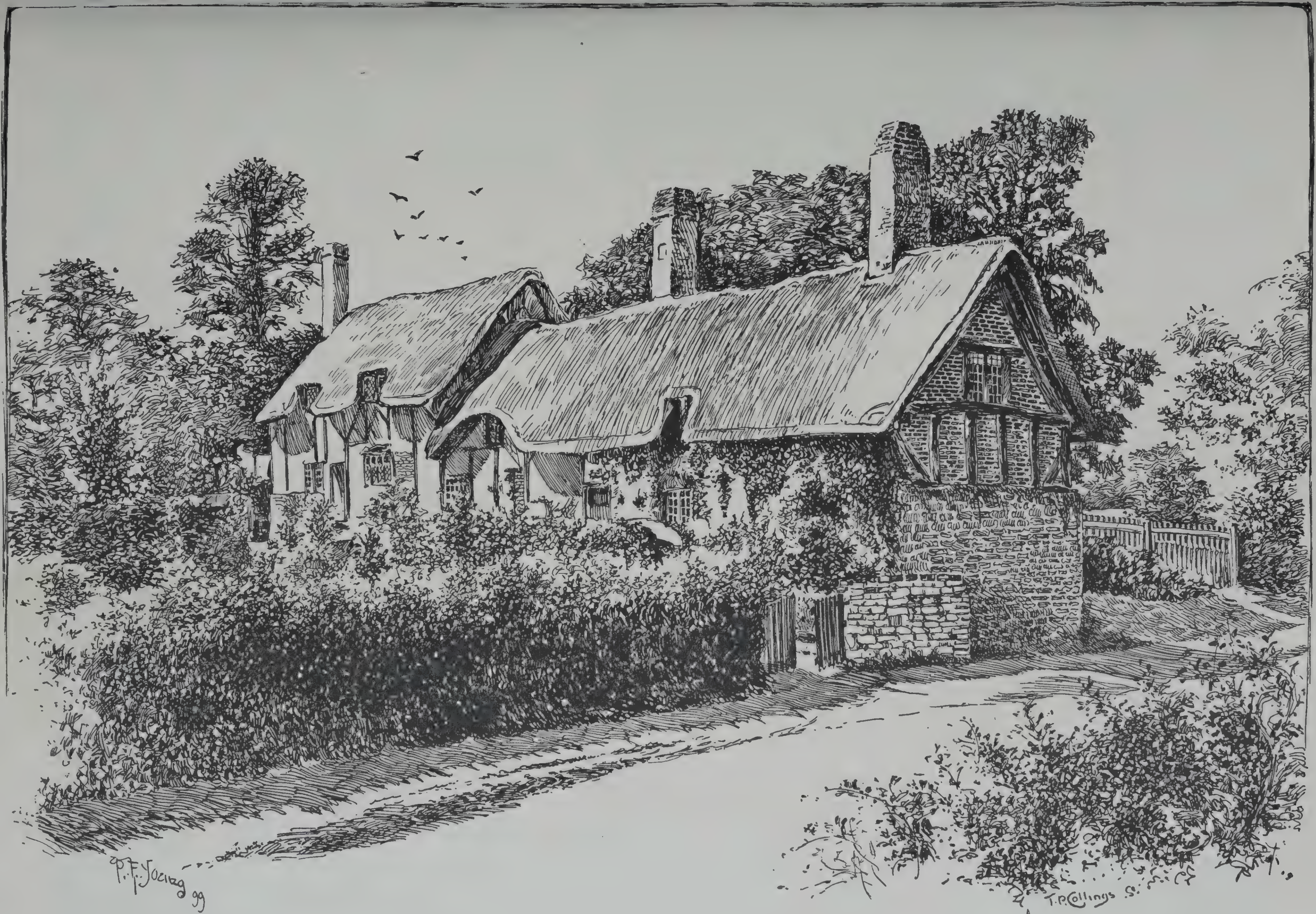

ANNE HATHAWAY'S COTTAGE.

Drawn by P. F. YOUNG.

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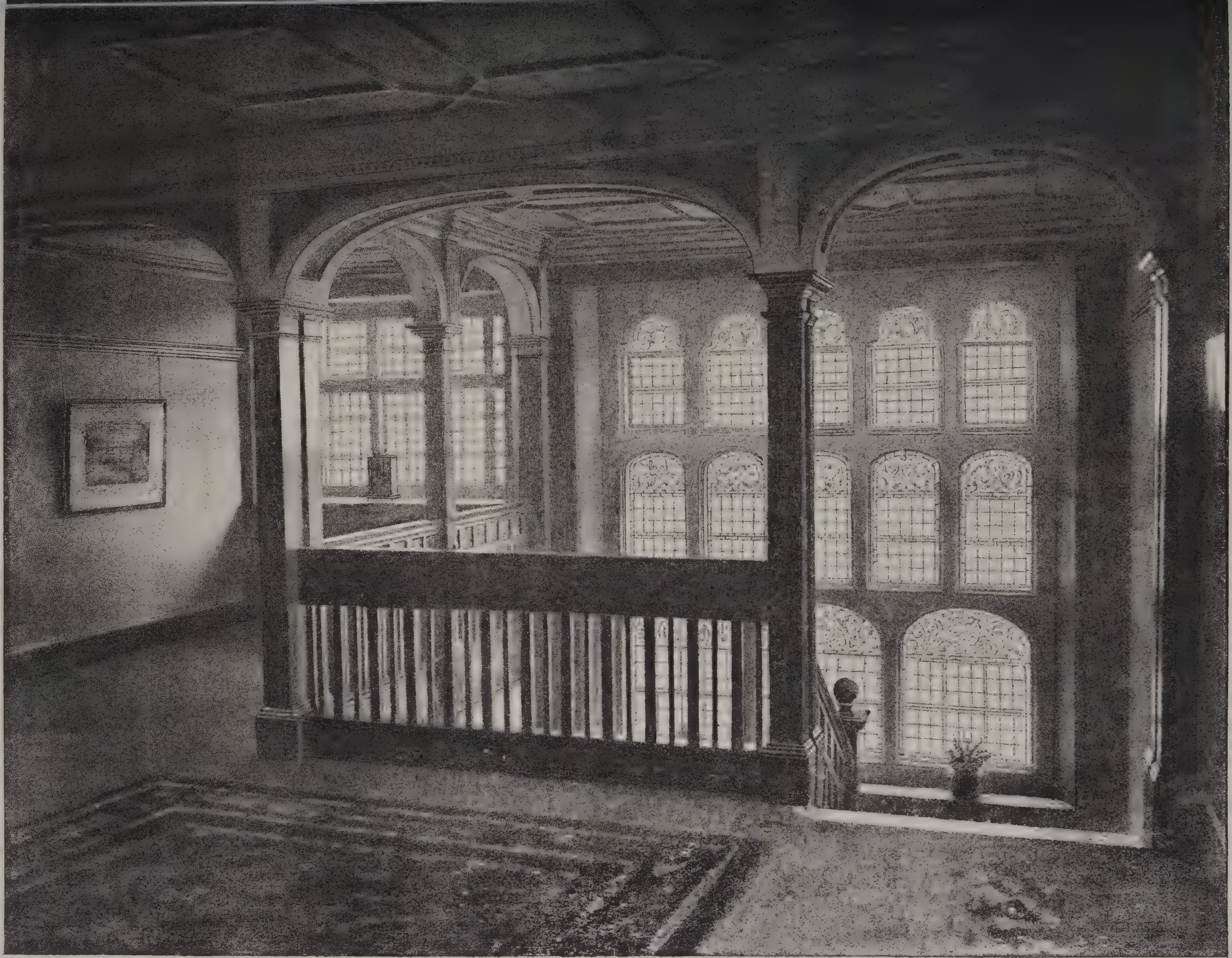

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"SHILLINGFORD HILL," BERKSHIRE: CORRIDOR, CHAMBER FLOOR.

GEORGE HORNBLOWER, F.R.I.B.A., Architect.

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The Architect.

THE WEEK.

A judgment has been given in the Glasgow Summary Court which is important, not only as a condemnation of an underground bakehouse, but of the procedure in the Dean of Guild Court as well. A large building in Bothwell Street is used as the Christian Institute Club and for similar associations. It contains a restaurant and a bakehouse, having an area of about 3,500 cubic feet, the floor being 3 feet 6 inches, or a fourth of the height, below the pavement of the street. The walls of the bakehouse are lined with white glazed tiles; there is electric lighting, ventilation, and the temperature is kept low. The Corporation summoned the manager for a breach of the Factory Acts, as it was considered the bakehouse was a place underground. The judge considered there was a contravention, and the manager was fined 10*s.* The site, it should be mentioned, is on a steep incline, and although the bakehouse is below the level of Bothwell Street on one side, it is not below the main street level on the side which is nearer. The judge, therefore, confessed he had sympathy with the owners of the property who were made the victims of the system of municipal government in Glasgow. The plans were approved by the Corporation officials before the bakehouse was erected, and as the judge said:—"It does seem a most extraordinary thing, which may well startle owners of property, that the same Corporation which sanctioned the plans of a building should, immediately after its erection, be found in Court prosecuting the owner for using the building in the way his plans showed he meant to use it. That such a thing should be possible seems to indicate that to keep himself safe a proprietor would require to call the factory inspector as a party in the Dean of Guild process when his building is to be put to industrial uses."

M. Ravaisson is an archæologist who has given much attention to the *Venus of Melos*, which is the most important work of antiquity to be found in the Louvre. The statue, it will be remembered, was discovered in 1820 in a niche beneath a garden belonging to a peasant named Jorgos. It was promptly purchased by the French consular agent at Melos, and despatched to Paris before an Englishman could compete for its possession. When it arrived at the Louvre it was concealed for some time from all but officials, and there is no doubt it was subjected to operations. The pedestal was altered, and has had to be altered again recently in order to give the inclination to the figure which, according to experts, it originally presented. What the goddess was supposed to be doing must be left to imagination. The French agent declared that when the statue was found the left arm was outstretched, while the right held the drapery as if to prevent it from falling. The lieutenant of the vessel which carried the statue, writing in 1821, confirmed that description. All the representations of the goddess on gems and medals have been scrutinised in order to discover a figure which would help to remove the difficulty about the original disposition of the arms. M. Ravaisson's latest discovery relates to an adaptation of the figure under remarkable circumstances. All who have visited the Pantheon in Rome know the memorial of Raphael, which consists of an altar with a statue of the Blessed Virgin which is recorded to be the work of Lorenzetto of Florence, one of the dearest friends of the master. Popularly the figure is known as the *Madonna de Sasso*, or *Virgin of the Rock*, because the left foot is planted on a stone at a higher level than that on which the right foot is placed. M. Ravaisson maintains that the figure is a version of that type of Venus of which the Louvre statue is one example. He believes it was taken from a copy of an antique statue which is found in the Vatican gardens. He finds in the work a confirmation of the theory that originally the goddess was a member of a group. The upper part of the *Venus of Melos* is undraped, as everyone knows, whilst the statue in the Pantheon is of course entirely draped. There is, however, undoubtedly some resemblance between the two figures, and in both the left foot is at a higher level than the right. There is also some similarity in the drapery of the limbs, and Lorenzetto's figure, if it could be accepted as evidence, would suggest that the arms of the *Venus of Melos* originally either held a shield which was supported on the left knee, or some other worthy object.

Hardly a year passes without an outcry in the papers about the sale of plaster casts in the streets of Paris. It is supposed the sculptors suffer by the sale of so many reproductions from their works. It is doubtless unsatisfactory to have the laws of copyright broken, although the royalty that could be paid for any one of the statuettes must be insignificant. The artists are, we suppose, more annoyed at the inaccuracy of the copies. If the sale of unauthorised statuettes were prohibited we doubt if any of the sculptors would be much the richer. The patrons of art who invest a franc or two in a copy of *The Florentine Minstrel* or *The Diana* would not be able to spend the sums required for one of the authorised copies in bronze or oxidised silver which are to be obtained in the grand shops on the boulevards or in the Avenue de l'Opéra. The fame of the creators of the figures is extended by the humble copies, in the same way as the barrel organs and street minstrels popularise the work of composers. The grievance, although it inflicts so little loss upon sculptors, has been so much spoken about, the French Ministers of Fine Arts and of Commerce are about to unite in introducing a Bill to put a stop to the industry. It is proposed to give the same protection to works in sculpture which is now possessed by the authors of new books, and to prohibit all copying which is not authorised by the artists. Financially the protection will not be worth much.

Although it was stated that Mr. H. J. Brydon, the electrical engineer, who disappeared after he left Dublin on the 10th ult., was recently obliged to obtain police protection, the belief in the capital is that he was swept overboard from the deck of the steamer in the Irish Channel. It would not be the first occasion of such an accident, for among the victims of the turbulent sea which separates Ireland from England have been a member of Parliament, a stockbroker, and a secretary to the Ecclesiastical Commissioners. Mr. Brydon, who was the representative of Messrs. Parshall, of London, had not recovered from an attack of influenza when he left Dublin, and he was therefore likely to have been unfitted to remain on deck during a stormy night. Architects will sympathise with Mr. J. M. Brydon in his affliction, for his son seemed destined to take as high a position in electrical engineering as he has in architecture.

St. John's Churchyard now belongs to the Liverpool Corporation, and an open space of about 4 acres near St. George's Hall is therefore available to be laid out as a public garden. Messrs. Ellison & Sons, architects, propose as the ground is sloping that a terrace should be constructed on the upper level next to St. George's Hall, with stone retaining wall in the shape of a crescent, with balustrade and pedestals for statuary or massive lamps, the central portion having a projection to about 80 feet from the hall, with raised space for a band to stand whilst playing, broad steps on either side giving access to the respective levels, and the front open with square columns (matching the hall), giving light and access to a spacious shelter beneath, and adding dignity to the terrace generally. The centre land on the lower level fronting the terrace to be formed into a sort of amphitheatre, with handsome clock tower, terrace, cascades and pedestals (for statuary if desired), having broad promenade walks round, both upper and lower levels furnishing sites for the proposed Forwood, Gladstone and Rathbone memorials, or others the city may hereafter determine to erect, the garden, of course, being furnished with suitable shrubs and flower beds. The architects also recommend that an access to St. George's Hall from the west side should be arranged as a public convenience, in order to prevent the necessity of having to go round the building to the Lime Street entrance. This entrance would, of course, correspond with that already existing.

ARTISANS' DWELLINGS.

When Dickens in 1838 described Jacob's Island in Southwark, he was supposed to have drawn the place from his imagination. Twelve years afterwards he tells us "it was publicly declared in London by an amazing alderman that Jacob's Island did not exist, and never had existed." Unfortunately there was not one island only of the kind in the Metropolis, but many hundreds, which were so completely ignored by respectable people that they were at last believed to be non-existent. Nor had London the monopoly of them. When inquiries were made about 1848 by the early Sanitary Commissioners, it was found there was scarcely one town in England which could not present districts which rivalled that described in "Oliver Twist." An industrial quarter in Leeds, for instance, was described as having broken panes in every window frame, filth and vermin in every nook, the walls unwhitewashed for years, the floors unwashed from year to year, no out-offices, causeways broken and dangerous, ash places choked up, and no authority recognised but the landlord, who weekly collected the rent from his miserable tenants. Dr. Southwood Smith, whose name should always be remembered with respect as one of the pioneers of sanitation, describes a visit which he paid to several parts of London with a distinguished foreigner who had read such descriptions as those given by Dickens, and could not bring himself to believe in their accuracy. After examples of neglect had been exhibited to him, we are informed how he expressed his astonishment that concern for the common safety had not induced the authorities to attend to the sanitary conditions of such extensive districts. "I told him," said Dr. Southwood Smith, "that these places were as unknown to our legislators, and to almost all our people in power, as an hour ago they had been to himself." The distinguished foreigner, however, thought the statement scarcely mended the matter. It would be vain to suppose the unsanitary conditions which prevailed in 1848 are among the miseries of the past which can only be known by tradition. A walk through many parts of London is enough to make men shrink at the dangers to which so many fellow-creatures are exposed, unless it is believed that they are necessary to keep down a redundant population. Unfortunately it is the interest of many people to keep the humbler classes in a condition that animals for which money was paid would not be exposed to. A larger rent in proportion to the value of the accommodation can be rung out from tenants in slums, and professional agitators tacitly approve of the evils, because they keep the occupants in a state of discontent. The inadequacy of the dwellings of the poorer classes, which at last is receiving attention from others besides the sufferers by it, is an ancient peculiarity of England. As long ago as 1602 it was declared in a proclamation by Queen Elizabeth "that such great multitudes being brought to inhabit in such small rooms, whereof a great part being very poore, and being heaped up together, and in a sort smothered with many families of children and servants in one house or small tenement, it must needes follow that if anye plague or other universal sickness should, by God's permission, enter among these multitudes, the same would spread itselfe." The great queen was, however, unable to find a remedy for overcrowding. As if to afford a satire on the weakness of the State in dealing with so powerful an enemy, Royal Windsor was long notorious for its insanitary condition. Half a century ago, when investigations into the condition of England's towns were in progress, one of the inspectors declared that among the places visited by him beyond all comparison Windsor was the worst.

One of the first efforts to cope with the housing difficulty was made by the late Earl of Shaftesbury. He contrived to have a Bill passed to enable towns with a population of at least 10,000 to mortgage the rates for ready money to provide dwellings for the working classes. John Leech made one of his happiest sketches, showing the working man—who was, of course, a carpenter, for the trade is much esteemed by artists—entering a comfortable room with a scullery adjoining, in which wecan see water was laid on for domestic use, a privilege which was then very rare in humble dwellings. But in spite of newspaper illustrations and articles, the towns were not eager to mortgage the rates for the benefit of a class that contributed so little to the income and was not possessed of much power over the election of councillors. Seeing the failure of Lord Shaftesbury's Act to meet the difficulty, McCullagh-Torrens, who was for a long time member for Finsbury, obtained the passing of Acts by which money could be raised in order to improve existing dwellings, and, if necessary, also allow the construction of buildings on a larger scale. As the success of those Acts was only partial, more comprehensive measures were introduced by the present Lord Cross, but they also caused disappointment. Various other Acts were subsequently passed. All of them, it must be allowed, have accomplished some good, but the task which has to be got through is so colossal, and the benefits derived by the possession of legislative powers seem to be insignificant.

Building is supposed by many to be so unprofitable a venture, it is not surprising that the comparative failure of the effort to provide model dwellings is ascribed to the cost of construction, owing to the character of the details specified by architects. No doubt in some of the early experiments the character of the buildings was not determined with a view to profit. In some of Baroness Burdett Coutts's working-class dwellings work was to be found which was good enough for any of the contemporary Gothic mansions, but that lady is always generous in the character of her gifts, and believes in the elevating influence of handsome surroundings. Private individuals are not to be blamed if, at their own risk, they please themselves by gratifying poor people. But it cannot be said that the Waterlow or Peabody Buildings are unnecessarily beautiful or costly. The fact is that in respect to cost an effort is made to make architects and builders responsible for outlay over which they have not the least control. If those large blocks of dwellings are too expensive, the cause is owing to the enormous sums, entirely disproportionate to the value, which have to be paid for sites. The same cause has operated in respect to the construction of railways and other works. Property is a sacred thing in England, and when it has to be purchased the price must be large enough to imply reverence for what is so exalted in nature. Corporations and public bodies are more liable to be mulcted than ordinary individuals. In a great many cases corporations have had to abandon their intention of erecting dwellings within the boundaries of their authority, and have incurred the risk of obtaining land outside the limits of their jurisdiction. This fact cannot receive enough consideration. Unless the average value of property is accepted for sites it cannot be expected that houses for the working classes can return a moderate percentage on the outlay. It will be said that the Waterlow Buildings and the Rowton Houses are not unprofitable investments, but we must remember that in the selection of sites the proprietors are not so much handicapped as a public body. They are not bound to set up buildings in particular places; they can utilise the bargains which occasionally appear in the property market; they can go through all the preliminary procedure without announcing the purposes for which the land is to be acquired. Above all, they cannot be pressed to make the work urgent like a town council. What is desirable is that public bodies should be placed on the same footing as individuals in the acquisition of land for public purposes, and until that is done there cannot be as easy a solution of the housing problem as is demanded.

A very instructive account of what can be realised was lately given to the Society of Arts by Mr. Edmund Wilson, a solicitor of Leeds, who has taken a practical interest in this most difficult problem. His paper was mainly a history of the Leeds Industrial Dwellings Company, Limited. The operations of the company began in 1866, and the first experiment was the erection of a four-storeyed building containing twenty-three dwellings with a common stair; there was also a common wash-house on each floor. Whatever was common became a "casus belli." Outsiders looked down on the tenants as if they were objects of charity, and apparently the soundness of the building made it sonorous, and the domestic broils and family jars created a polyphony which was not agreeable to a tired workman. So the experiment failed. A second experiment was not more successful. Mr. Wilson at last came to the conclusion that operations on a heroic scale were not likely to be more successful than those in which he had taken part. He found it was necessary to imitate the practice of the ordinary landlord, and if shareholders will invest in houses it is necessary for them to look after their property. The company now owns 1,000 houses, and if he had had his way they would have possessed 10,000. They are mainly of the cottage class, and are erected in the suburbs of Leeds; but just as we find in South Africa, operations in one part of a district will effect a pressure in another part, and the more people will go to the company's cottages, the less will be the overcrowding in the central parts of Leeds. In the selection of sites and the determining of the class of buildings to be erected, Mr. Wilson says that two qualifications are indispensable—common sense and a knowledge of the needs and habits of the people to be provided for. The medical faddist he believes to be the least suitable of all guides. If a medical officer is to be employed he is to be kept to germs and microbes and bacilli. Instances were given by him of the waste of money that was entailed by following the advice of men of that class. Indeed, according to Mr. Wilson, the Leeds Corporation in their desire to do things grandly have wasted very large sums of money. Thirty years ago one district was cleared; a police station was erected on one part of it and baths on another part, but the Corporation cannot sell the remainder of the land for buildings. That is not a solitary instance of precipitate action by which a danger is removed, although a remedy cannot be provided. In London it is possible to adopt Mr. Wilson's suggestion; indeed, it was anticipated by the praiseworthy efforts of Miss Octavia Hill. If there were an army of Miss Hills much would be done for the amelioration of London; but when attempts are made in districts which are far apart and which seem to have no connection, the results do not appear to be sufficiently powerful. Concerted action is indispensable, and that is difficult to organise in the face of so many obstacles, especially when such extraordinary prices are demanded whenever property is to be improved.

On that account the interest shown by the Prince of Wales in the providing of improved dwellings for the humbler industrial classes is likely to have important consequences. When, on Saturday last, at the opening of the new buildings on the Boundary Street Estate at Bethnal Green, we find the Prince announcing that he has no control over property of which he is the owner in Lambeth, and cannot deal with its insanitary defects, an object lesson is afforded which the Legislature cannot fail to study. The Prince desires to see his Lambeth tenants as well housed as his Norfolk tenants, but there are leasehold interests and an Act of Parliament which he is not able to overcome. The acknowledgment of impotence in his case reveals what has to be endured in many others, and the desires of people who are willing to suffer sacrifice for the benefit of the poorer classes are frustrated by the laws which uphold property at all costs. It is well known, for instance, that Lady Henry Somerset was willing to abandon her rights in order to enable the County Council to rebuild a street, but the Courts could not give the required sanction to the project because there was no certainty that the sacrifice of her ladyship's rights would bring in an increased rental. The Boundary Street Estate was too remote and insignificant to be subjected to intricate processes in the High Court, but it has required an outlay of 600,000*l.* to be made fit for poor inhabitants, a sum which could only be obtained by a body having the power of the County Council. It is supposed the capital will be repaid in the course of sixty years, but even with that prospect there has to be a limit to the number of improvement schemes which can be attempted. It is also a melancholy fact that of the former residents on the land very few will be able to enjoy the advantages of the new accommodation.

If the land could be sentient it would be amazed at the value which has been set upon it. To pay 330,000*l.* for ground which carried some of the worst hovels in London resembles the adoption of war prices in the East End. The new buildings, which are supposed to be of too grand a character for the tenants, and which comprise shops, baths, laundries, &c., cost a less sum, or 270,000*l.* Should the outlay fail to be refunded within the term proposed, we suppose the inhabitants of London in 1960 will believe the failure arose out of the excessive price of the builders' work and was not directly due to the expenses which were incurred before a brick was laid. Lord Welby, the chairman of the County Council, however, made it plain to those who heard him on Saturday that the greatest obstacle to the improvement of the slums was found in the owners of those plague spots and their leaseholders. Unless powers are granted by Parliament to enable the rights of such men to be acquired on equitable terms, there cannot be any efficient dealing with the overcrowding of London and the large towns. It is only by compulsory means the individual passion for accumulating wealth, regardless of the well-being of the community, can be restrained within reasonable limits, for in the case of building sites in an old town like London the ordinary economic checks on unfair prices are no longer to be found. There is a monopoly, and a surplus value may therefore be allowable, but to suppose the surplus is to rise to any amount which greed can dictate is to make the individual owner a despot and the State a nullity.

STAIRCASES.*

The staircase is one of the parts of a building which was longest in gaining recognition as a means for architectural display. The ancient staircases are generally supposed to have been treated as mere utilitarian objects. The credit which belongs to the discovery of the staircase as an opportunity for a special treatment should be awarded to the Renaissance architects. It could not be said, however, that the Gothic masons were indifferent to a part of a building which enabled them to exercise their ingenuity in stone-cutting. Viollet-le-Duc speaks in commendation of the Norman staircase at Canterbury, although it is not remarkable for its intricacy. But the spiral staircases which were in favour at a later period, he says, were adopted because they occupied little room while giving easy access to the upper storeys. The diameter of them was rarely more than 5 feet in the clear, and they were frequently constructed within the thickness of the walls. They were very different in appearance to such a grandiose work as the Giant's Staircase in the Doge's Palace, Venice, which dates from 1485. Palladio appears to have originated the modern system of staircase construction, but his examples existed a long time before they were considered worthy of imitation in England. Lord Bacon's idea of a staircase for a palace is not suggestive of a grand model. Let the stairs, he advises, "be upon a fair and open newel, and finely railed in with images of wood cast into a brass colour, and a very fair landing-place at the top." Some years afterwards Sir Henry Wotton gave more explicit directions as became a lawgiver on architecture. But we doubt whether the result was not less striking than was to have been expected from the instruction of a man who had spent so long a time in the study of Italian buildings. What he says on the subject is curious, as indicating the belief of the early part of the seventeenth century on the subject :—

> To make a compleat staircase is a curious piece of architecture; the vulgar cautions are these. That it have a very liberall light against all casualty of slips and falls That the space above the head be light and airy, which the Italians use to call *Un bel-sfogolo*, as it were good ventilation, because a man doth spend much breath in mounting. That the half-paces be well distributed at competent distances for reposing on the way. That to avoid encounters, and besides to gratifie the beholder, the whole staircase have no nigard latitude, that is, for the principall ascent, at least 10 foot in Royall Buildings. That the breadth of every single step or staire be never less than 1 foot nor more than 18 inches, that they exceed by no means half a foot in their height or thickness, for our legges do labour more in elevation than in distention; these I say are familiar remembrances, to which let me add, that the steps be layd where they joyn *Con un tantino di scarpa*; we may translate it, somewhat sloaping, that so the foot may in a sort both ascend and descend together, which though observed by few, is a secret and delicate deception of the pains in mounting.

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* *A Treatise on Stair-building and Hand-railing.* By William Mowal, M.A., and Alexander Mowal, M.A., Science Masters, School of Science and Art, Barrow-in-Furness. London: George Bell & Sons.

Lastly, to reduce this doctrine to some naturall, or at least mathematicall ground, our master (Palladio) as we see borroweth those proportions that make the sides of a rectangular triangle, which the ancient school did express in lowest terms, by the numbers of 3, 4 and 5. That is, three for the perpendicular, from the stairehead to the ground; foure for the ground-line itself, or recession from the wall; and five for the whole inclination or sloapeness in the ascent; which proportion, saith he, will make *Temperatas graduum librationes.* Hitherto of staire-cases which are direct: there are likewise spirall, or cockle staires, either circular or ovall, and sometimes running about a pillar, sometimes vacant, wherein Palladio (a man in this point of singular felicity) was wont to divide the diameter of the first sort into three parts, yielding one to the pillar and two to the steps. Of the second into four, whereof he gave two to the staires and two to the vacuity, which had all their light from above. And this in exact ovals is a master-piece.

It will be apparent that Wotton's preference was for direct staircases, or, in other words, those which were laid out on right lines. He says little about circular, oval, or spiral stairs; he represented in that way the national preference. A great staircase, like those in Crewe Hall and other Jacobean or seventeenth-century buildings, was constructed with the aid of few curved lines. On the Continent there was a desire to exhibit curves, and it still prevails. The greatest of modern staircases viz. that in the Opera House of Paris—consists entirely of curves, although straight lines would have served if only utility were considered. If, however, M. Garnier's work were translated into stiff, straight lines, while the ascent and descent would be equally facile, the beauty would vanish. In the Tribunal de Commerce of Paris, we can also see a remarkable curved staircase. In all these modern works the architects were simply carrying on the principle of the remarkable staircase in the Cour du Cheval-Blanc at Fontainebleau, which was erected in 1634, or only a few years after Wotton had written about lines that were direct. The difference in treatment between the work of the two countries is remarkable, and to some extent is due to the greater love of geometry which always existed in France, and which inspires French architects to find delight in curves in their buildings.

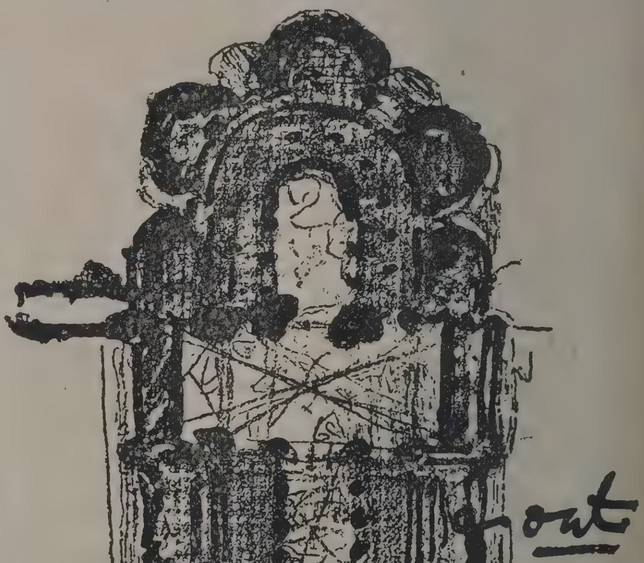
During many years, however, there have been carpenters in this country who have possessed sufficient knowledge of geometry to be enabled to construct staircases with winding curves. They appear as if they were the successors of the Mediæval workers in wood and stone, and are no less disposed to keep their rules as far as possible secret. It was always possible to construct any sort of staircase that was desired, although the laying out of the lines might be a very roundabout process and entail a large amount of fudging. Peter Nicholson endeavoured to reveal the mysteries of staircase geometry, and his book is still serviceable. But the requirements of construction often present problems for which his "Carpenters and Joiners' Assistant" is unequal. A new and most interesting variety of the staircase is needed in the floating mansions which now traverse the ocean. In them economy of space is a primary consideration, and with the aid of geometry staircases on curved plans are made to supersede the old-fashioned ladders, and are more convenient to the passengers without occupying any extraordinary amount of space. In English ships, consequently, staircases can be seen which, at least, are equal to those in Paris buildings in ingenuity and in showing an application of geometry.

The new treatise on "Stair-building and Hand-railing," by Messrs. W. and A. Mowal (George Bell & Sons), comprises methods for laying out staircases in ships as well as in houses. A book of the class depends for value mainly on geometrical diagrams, and in this work they have been drawn to a scale by which every detail is manifest. Better plans and sections are not easily to be found. The authors begin with the simplest classes of stairs, and by degrees lead the student on to the most complex cases in wood and stone. The explanations, we imagine, can be readily comprehended by ordinary workmen, and the construction of the diagrams is made so plain there should be no difficulty in copying them on a larger scale. There is no geometrising for the sake of displaying subtlety, and indeed any student who has mastered the appendix on plane and descriptive geometry will be able to go through all the problems and propositions with advantage. The volume is an admirable example of the new class of scientific treatises by which technical education is becoming a reality, and it should help to create a class of designers and workmen that will enable England to compete with those in foreign countries. The book has been produced in excellent style and well deserves the commendation of architects. The following extract on the fixing of steps will give a notion of the didactic instruction in the pages, as distinguished from the geometrical:—

> As a rule stone stairs should not be erected till the enclosing walls of the stairway have been built and allowed a sufficient time to settle down and arrive at their bearings. In the case of stairs with steps supported at both ends it is obviously more expedient to lay the steps as the walls are being built, and this is very frequently done. The former, however, is the safer plan, since it avoids any risk of damage to the structure from unequal settlement of the walls, and of injury to the finished steps incidental to building operations at an early stage of the work. When the former method is adopted the indents or raglets made in the walls for the reception of the ends of the steps are built up in a temporary manner with bricks, bedded in sand, so as to be easily removed when the steps are being fixed. The steps should be pinned into the walls with pieces of slate, tile, hoop-iron, &c, along with cement. As overhanging steps act to some extent as loaded levers, tending to crush and displace the wall, care should be taken to secure good solid masonry in the vicinity of the indents, and from 1 foot to 18 inches of the wall immediately above and below the line of the stair should be built in strong cement mortar to insure greater solidity. It is, of course, equally important that the work of pinning-in overhanging steps should be carefully performed, and all the interstices filled up with solid material, otherwise they are liable to work loose when subjected to heavy and continuous traffic. A pair of iron folding wedges driven in above each of the nosings prove very effective in securing the steps at the wall. When a step has been fixed in its proper position and levelled the overhanging end should be temporarily supported by wood struts or other means till the cement is thoroughly set.

THE METHOD OF H. H. RICHARDSON.*

When an architect sues for his fee and his drawings are brought into court as evidence of the work he has done, the opposing counsel at once proceeds to make the discovery that the drawings have not been made by the architect at all, but by a draughtsman. Investigation of the draughtsman's salary and estimation of the length of time taken by him to make the drawings which are shown in court reveal what



Plan of Cathedral Church.

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* A paper by Mr. W. A. Langton, presented at the annual convention of the Ontario Association of Architects, January 1900, and published in the *Canadian Architect.*

seems like a scandalous disproportion between the cost of the drawings and the fee that is asked for their use To the jury it appears as if the man who made the drawings did the work, and the time he took to make the drawings represents fairly well the time that should be charged for; nor are they disposed to be at all indulgent in a matter which appears to them perilously near a system of sweating the draughtsman. Both counsel know better, but they are not so sure about it that the opponent's counsel need feel any scruple about raising the objection for the chance of what there may be in it, or that the counsel for the architect can clearly explain to the jury that there is nothing in it; that an architect's work is not to be measured in that way.

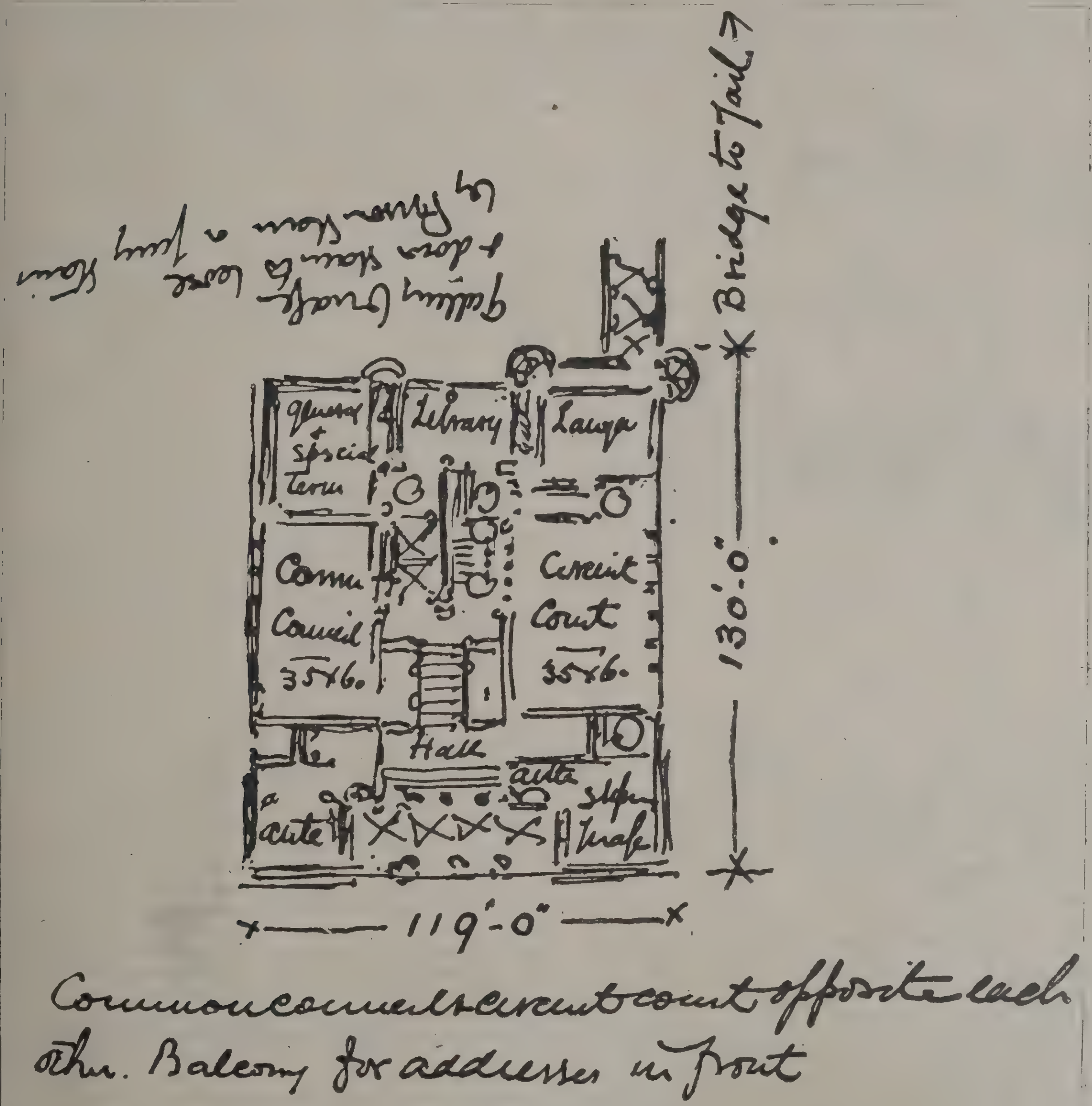
I propose to illustrate the architect's position by an account of the method of work of H. H. Richardson, an architect who collected 50,000 dols in fees in a year, and who never made one stroke of the drawings upon which these fees were based.

In taking Richardson as an example I am taking a man who was par excellence an architect. His office was, above all things, a place where original work, or, to use his own phrase, his "own work" was done. From the beginning, in the plan which was his conception of the idea contained in the problem, to the details of finish which were in accordance with his taste, it was his own—so much his own that when the rush of enthusiasm for his work produced imitators all over the country, though it was thought at first that the American style had been founded, it was soon seen that the charm was in a personal quality that could not be caught, and that the style apart from the man was nothing.

How were these designs produced? One would suppose that he must have drawn everything himself; to the extent at least of the essential proportions and features, if not the mouldings and ornaments.

The extent of his drawing was a plan scribbled on a sheet of note-paper; often done in bed, where the state of his health obliged him to spend much of his time and where he had the best opportunity for thought. A plan 2 or 3 inches square embodied his idea. The ultimate result of his study was inked in over the mass of soft pencil marks with a quill pen, and sometimes principal dimensions were figured. That was usually the end of his work on paper.

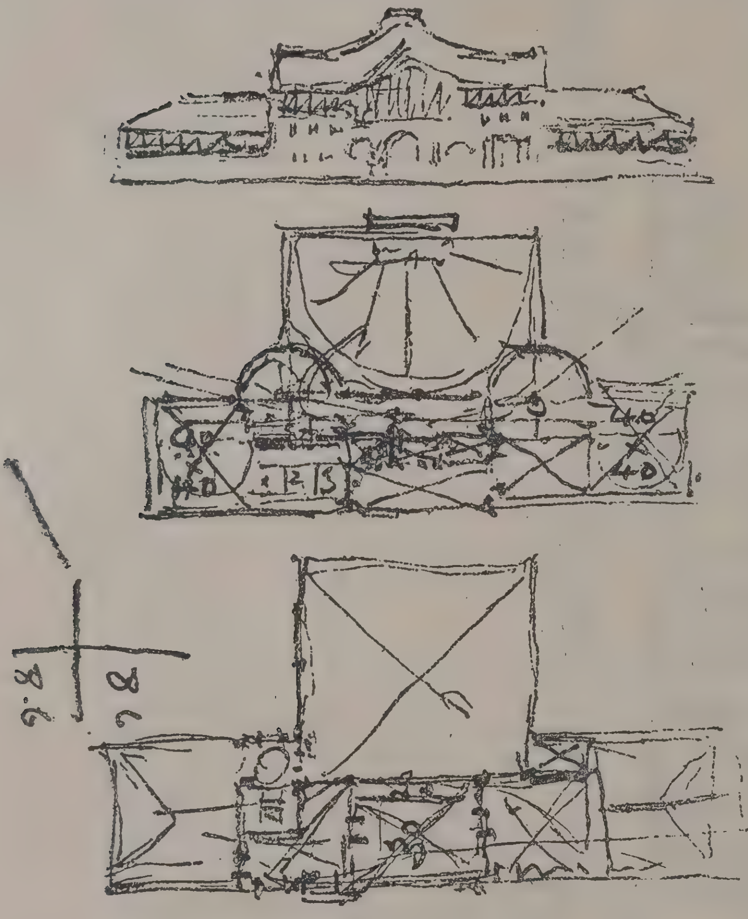
There is in Mrs. Van Rensselaer's Life a sketch for the Harvard Law School which shows an elevation also, but I do not think that he often defined the elevation in this way.



PLAN OF CITY HALL, ALBANY.
(*Autograph Sketch by H. H. Richardson.*)

This note went to the head draughtsman, who worked in a room apart in constant consultation with Mr. Richardson. The nature of that consultation was to a great extent criticism merely, and the suggestion of leading ideas; but never, I think, so definite as to supersede thought on the part of the draughtsman. The first criticism of the kind that I heard has remained in my memory. It was just after some big works had possessed the mind of the head draughtsman with ideas of grandeur. He was at a table near me designing the entrance to a house at Albany when Mr. Richardson passed, and, after looking over his shoulder for a moment, said, "C'est la délicatesse qu'il faut maintenant, mon ami" (it is refinement we want now), and went away. It was délicatesse he got. The fenestration of this house was in charge of another draughtsman whom Mr. Richardson kept rubbing out his windows all morning until they came right, and were accepted with the remark, "There is nothing like rubbing out." The only case in which I worked from one of these sketches was a sketch plan for a large apartment house. The sketch came to me on a piece of note-paper showing two large bays in front running through all floors. This was the design. The living rooms connected with the front were indicated clearly; an interior courtyard was shown, and the living rooms connected with it, but the back was a mere scribble with "service" written across it, and, as far as I recollect, such guides as "lift," "dust" and perhaps one or two more hints of the peculiarities of the service department of a flat.

Usually these original notes did not appear in the office, but were guides for the head draughtsman alone, who made from them small scale sketches for the client. When the matter was settled the small scale sketches were put into the hands of one or more draughtsmen; usually a pair, one in charge, the other assisting. When the actual work was done many hands might ink and trace; even better hands than the original men who did the drawing (as we understand the word) sometimes dropped their work, if it could wait, to take a hand in wiping off a job which could not. The specification was usually written by the senior of the responsible draughtsmen, and one of this pair often acted as superintendent while the work was in progress, especially if the work was out of town. For larger work there was a larger gang than two, but the principle was the same; everybody was responsible. Mr. Richardson designed, the head draughtsman or draughtsmen executed his design, and the junior draughtsmen made from it the working drawings and specifications. There was, of course, much mutual consultation, criticism and advice; but Mr. Richardson himself was usually away most of the day when in town, and was half the time out of town; and the final authority in construction, who was called the foreman, was away for months together superintending the erection of the largest work. So it was a school of artists or art students of all grades all helping one another in that mutual agreement which came from their having but one aim and one idea—to carry out Mr. Richardson's design. When it came to details there was even more apparent freedom, from the fact that a design would be from beginning to end a draughtsman's own work; but it was not his own in the sense of being a departure in any way from Richardson's recognised feeling. Where, when or how he stated his ideas about detail it was not always easy to trace, but all the office knew what he liked. He did not fail to praise what had turned out to be successful, and in course of time the tradition of what pleased him was established, for detailers were particularly keen to have their work approved, as it was in a real sense their own, though it was designed to meet his views.


LAW SCHOOL.
(Autograph Sketches by H. H. Richardson.)

The conclusion which, I think, we may draw is that Richardson's very method of work had much to do with the ideal character of his design. It was to the idea he devoted himself entirely, and it was the essentials to its expression that he looked for in the drawings and succeeded in bringing out of the draughtsman. So that to return to the juryman's point of view, I think we may say that not only was he entitled to his fees without having made any drawings himself, but it was the very fact of his not having made drawings himself that gave his work that quality which made the public glad to give him the large fees he asked.

LICHFIELD CHURCH EXTENSION FUND.

THE Bishop of Lichfield has addressed the following letter to each of the three archdeacons in relation to this fund:—

"My dear Archdeacon,—Having been requested by the Diocesan Conference to establish this fund to commemorate the close of one century of the Christian era and the commencement of another, I have consulted several of the clergy and laity who are interested in Church work in the diocese, and I now venture to ask your kind co-operation in the initial stages of the scheme which is the outcome of our deliberations.

"1. I propose that the special fund thus raised should be devoted to the specific purpose of building churches and mission-rooms, and that these should be particularised.

"2. That the total amount (one million shillings) should be raised locally in the following proportions, viz. by the Archdeaconry of Stafford 500,000, by the Archdeaconry of Stoke 300,000, by the Archdeaconry of Salop 200,000.

"3. I shall be obliged if you will take an early opportunity of inviting the rural deans in your archdeaconry to meet, and will obtain from them a list of the places where the need of a church or mission-room is most urgent, and to tabulate these in the order of necessity, that the subscribers may be informed that in the distribution of the fund those cases will receive first consideration which are most pressing.

"4. I would also ask you at the same meeting to apportion the amount to be raised in your archdeaconry among the several deaneries, and request the rural deans to summon an early meeting of the members of their Ruridecanal Conference to apportion the amount for the deanery among the several parishes in it."

THE LATE MR. R. S. FERGUSON.

THE death is announced of Mr. Richard S. Ferguson, F.S.A., Chancellor of the diocese of Carlisle, chairman of the Cumberland Quarter Sessions, and a distinguished antiquary. He died at his own residence at Carlisle on Saturday afternoon. The elder son of the late Mr. Joseph Ferguson, a member of a well-known firm of manufacturers in the border city, he was born in July 1837. He was educated at Shrewsbury and St. John's College, Cambridge, and was called to the Bar at Lincoln's Inn in 1862, and practised for about ten years, going the Northern Circuit. His health then broke down, and it became necessary for him to lay his work aside and travel in Egypt and Australia. He returned home in 1874, but instead of resuming his profession he devoted himself to literature, archæology and local affairs. His first books were "Early Cumberland and Westmorland Friends," in which he sketched the most notable Quakers in the two counties, and "Cumberland and Westmorland M.P.'s from the Restoration to the Reform Bill." His experiences in Egypt furnished the materials for another volume entitled "Moss Gathered by a Rolling Stone." Mr. Ferguson was also the author of several other works of archæological and antiquarian interest, and as editor of the Transactions of the Cumberland and Westmorland Antiquarian and Archæological Society, which he was mainly instrumental in establishing in 1866, he did much to develop in the district a taste for archæology and to preserve objects of antiquarian interest. He helped to clear up many doubtful points in relation to the Roman Wall and the Roman occupation of Cumberland, and gathered together in the Corporation museum at Carlisle an exceptionally rich and valuable collection of Roman remains. Under his direction the two counties were carefully explored, and the records of the Transactions contain a rich mine of information relating to churches, houses and family histories. One of his histories contains a very graphic picture of Cumberland as it was in the days of the Romans. Mr. Ferguson had quite lately accepted the editorship of the two volumes relating to Cumberland in the projected "Victoria History of the Counties of England." More than twenty years ago he entered the Carlisle Corporation, and was thereby enabled to gain access to the city muniments which are of great local interest. He translated the charters preserved among them and brought to light records of many curious customs and regulations connected with government of the city in old days. He was twice Mayor of Carlisle (1881-82 and 1882-83), and the Corporation, in recognition of his eminent services, made him an honorary freeman of the city. Chancellor Ferguson was a most active member of the principal committees of the Corporation, and took a leading part in the establishment of Tullie House, an institution founded by the Corporation for the advancement of literature, science and art, comprising a free public library, school of art and science, art galleries and antiquarian and natural history museum. He was chairman of the committee from the first, and through his influence many valuable collections of books and antiquities were obtained as free gifts. He was a magistrate both of the city of Carlisle and of the county of Cumberland, and on the retirement of Mr. Percy Wyndham he became chairman of quarter sessions for the county. On the death of Chancellor Burton Bishop Goodwin appointed Mr. Ferguson Chancellor of the diocese of Carlisle. The appointment of a layman was a new departure, but Mr. Ferguson's legal training qualified him well for the post, in which he was eminently successful.

TESSERÆ.

Absence of the Arch in Egypt and Greece.

THE discovery of the use of the arch by the ancient Egyptians in the tombs at Gornou, by Belzoni, and its subsequent confirmation by Wilkinson, have probably anticipated all further speculation respecting its remote antiquity. M. Caillard also furnishes an example, among others, from the portico of the largest pyramid in Nubia; and Waddington, an arched roof in a portico similarly affixed to a pyramid at Jabel Barkel. As these pyramids are believed to be more ancient than those of Egypt, it would appear that this, among other species of knowledge, came down the Nile from Ethiopia. It has been asked, Why, if the Egyptians knew the construction of the arch, did they not use it in their temples? The writer would make two replies, first, by asking another question, Why should they have had recourse to so complicated and petite a mode of construction when they could effect their object by more simple means? One bold block (which we hardly know how to move nowadays) from column to column effected as much as half a score little stones could have done in the shape of an arch. Besides, secondly, the simple and massive style of architecture in their temples, as well as in those of Greece, necessarily precluded that variety of forms which the introduction of the arch must have created. Straight lines and broad surfaces are elements of a severe and grand style of architectural art, which contrasting curves and semicircles as leading forms would inevitably vitiate. In less important edifices, where materials and expense were matters of consideration, such as baths, private dwellings, &c., ornament might be preferred to vastness and beauty to sublimity, and the arch and its picturesque accompaniments might prove a desideratum. But there are no such edifices remaining either in Egypt or Greece, unfortunately—so liable to destruction does littleness of material render all edifices. Had the Greeks built subterranean tombs and resided in a muddy district, they would in all probability have used the same materials, and in the same manner as the Egyptians; but it is not reasonable to declare the former to be ignorant of a principle of construction with which their preceptors were familiar a thousand years before their day, merely because their mode of sepulchre required no subterranean vaults, and their marble territory furnished them with a less perishable substitute for bricks if it had been wanted. Another objection has been urged against the knowledge of the arch by the Egyptians and the Greeks, viz. that if they had known how to turn an arch they would inevitably have built bridges with arches over their rivers. This conjecture has probably been made in a country where the rivers are lazy, and the waters do not rise so high or fall so low as in the east—a slight lesson on the "blowing-up" of arched bridges by high floods would convey no idea of their permanency (look at the Tiber, where, among many antique bridges, only half a one is left), and the Nile, of all rivers, would have been most objectionable for the experiment; while almost any river-bed in Greece might, when it happened to have water in it, have been crossed by one of their usual colossal blocks.

Horace Walpole and Gothic Churches.

Walpole, regarded as the "admirable Crichton" of his day, as a man of superlative taste, "the observed of all observers," made tours and visited various cities, and what are his comments? They are really worth quoting, as being the opinions of an English gentleman of high birth, educated at Eton and Cambridge. Speaking of Bristol Cathedral, he says:—"It is very neat, and has pretty tombs, besides the two windows of painted glass, given by Mrs. Ellen Gwyn." Of Malvern Abbey:—"It is situated half-way up an immense mountain of that name; the mountain is very long in shape, like the prints of a whale's back; towards the larger end lies the town. Nothing remains but a beautiful gateway and a church, which is very large." This is all that is said of that fine building. Of Worcester Cathedral:—"It is pretty, and has several tombs, and clusters of light pillars of Derbyshire marble lately cleaned. Prince Arthur's tomb, from whence we took the paper for the hall and staircase [at Strawberry Hill—rather an undignified appropriation of this fine monument], to my great surprise, is on a less scale than the paper." Of Gloucester Cathedral, when writing to Bentley, he says:—"The outside of the cathedral is beautifully light; the pillars in the nave outrageously plump and heavy. Kent designed the screen, but knew no more than he did anywhere else how to enter into the true Gothic taste. Sir Christopher Wren, who built the tower of the great gateway at Christchurch, has catched the graces of it as happily as you could do; there is particularly a niche between two compartments of a window that is a masterpiece" Again, in speaking of Gloucester Cathedral, Walpole adds:—"But here is a modernity which beats all antiquities for curiosity: just by the high altar is a small pew, hung with green damask, with curtains of the same; a small corner cupboard, painted, carved and gilt, for books, in one corner, and two troughs of a birdcage with seeds and water. It belongs to a Mrs. Cotton, who, having lost a favourite daughter, is convinced that her soul is transmigrated into a robin redbreast, for which reason she passes her life in making an aviary of the cathedral of Gloucester. The chapter indulge this whim, as she contributes abundantly to glaze, whitewash and ornament the church. A little way from the town are the ruins of Llanthony Priory. There remains a pretty old gateway, which G. Selwyn has begged to erect on the top of his mountain, and it will have a charming effect." In their way these remarks are characteristic of the taste of the age, and what was the fruit of Walpole's observations? Why the erection of a card-paper house at Twickenham, with what Macaulay calls pie-crust battlements, after the most approved examples of Batty Langley. A portion termed "the cloister" was really nothing more than three low arches, more fitted to hold dogs or birds than for an ambulatory. A man might in six strides have compassed it. Yet it was of that building that Gray says, "There was a purity and propriety of Gothicism in it that I have not seen elsewhere."

Popular Art.

No work has ever become part of the great heritage of the race which has not been rooted in the sympathies of the nation; to appeal to the refined and educated and fastidious few must always make art an *objet de luxe*, not the staple commodity of the food offered to the world. If it be replied that the highest kind of art can only be appreciated by the highest order of minds, the plain fact remains that the greatest creations have furnished food for gentle and simple alike, that the best Greek plays were intended to be acted before the Athenian nation, that Phidias believed himself to be interpreting the great goddess to her own city, that Homer and Shakespeare were popular poets, that Michel Angelo and Raphael had no idea of an esoteric manner of painting for a small knot of like-minded men, but sought to raise and "fulfil" the religious feeling of their whole people—they combined something which was fit food for the highest, which perhaps the greatest minds may not yet have fully reached, with what was intelligible to the common people. We don't believe in "Dionysus, God of joyous nature." Why then paint him? "But," say the very clever men of this school, "we do still believe in joyous nature, and this is only the most beautiful incarnation ever accomplished of what is a common feeling to all time." Then let us discover a form of our own to express the immortal truth which no doubt is the foundation of those exquisite Greek creations. Are we so poor that we have no language of our own, but must speak a foreign tongue? "The feeding of the heart on beauty" is akin to a devout exercise, as Plato, Francis Newman, Dante in the "Vita Nuova," and Michel Angelo in his sonnets declare; but the "mere play with the ideas of things infinite," which is the bane of the Greeks, with the fact that "none of the qualities which we peculiarly call spiritual" were expressed at all by Greek statues, must always make their art an inadequate expression of modern feeling. "The belief connected with the Eumenides was the only purifying part of the Greek religion," says K. O. Müller. It is, after all, the people whom art ought to instruct and raise to a higher mind, and this can hardly be done except by appealing as both the Greeks and Italians did to their sympathies and understandings—to feelings and ideas which will be fed with bad food if not by good.

NOTES AND COMMENTS.

HEIDELBERG could hardly be more dear to Germans than it is at present. But those among them who are of an archæological turn may find new interest in the spot from the recent discoveries of Professor KARL PFAFF. He has come to the conclusion, on the strength of evidence which is irresistible, that Heidelberg has been continuously inhabited from the prehistoric Stone Age. If it could be supposed that the early inhabitants admired the district on account of its picturesqueness it would be gratifying, but unfortunately there is no reason to believe that landscape scenery was appreciated until a comparatively recent time. Professor PFAFF'S conclusions are based on the objects which have been found in burial-places and other parts of the district. In the midst of the pleasant town, where men of all nations can somehow feel they are at home, there are sites which, when excavated, have afforded a surprising amount of ancient relics. Weapons of the Neolithic, Bronze and Iron Ages have been met with, and it is now evident that when the Romans came to the place Heidelberg possessed an antiquity which could not then be realised. The examples of sculpture which have been found indicate that the Romans had surrounded themselves with works of art, and that their buildings were equal to those in other parts of Germania. Merovingians and Carlovingians possessed the place, and some of the hordes from northern regions must have passed through it. Heidelberg is consequently a miniature Europe, and the wanderers who every year find their way to it can hardly fail to reflect that they are only the latest of a long array, and that they will be followed by many others who will leave no trace of their sojourn.

THE total amount expended on technical education during the year 1897-98 in England, Wales and Ireland was 860,104*l.* 19*s.* 2*d.*, and the estimated total expenditure on technical education during the year 1898-99 was 874,611*l.* 17*s.* 10*d.* These amounts are exclusive of the sums allocated to intermediate and technical education under the Welsh Intermediate Education Act, 1889. The amounts raised by loan on the security of the local rate under the Technical Instruction Acts were in 1897-98, 69,333*l.* 17*s.* 3*d.*; in 1898-99, 133,583*l.* 9*s.* 10*d.* The total amount of the residue received under the Local Taxation (Customs and Excise) Act by the councils of counties and county boroughs in England (excepting the county of Monmouth) in respect of the financial year 1897-98 was 834,826*l.* 19*s.*, of which 759,400*l.* 15*s.* 4*d.* was appropriated to educational purposes, and 75,426*l.* 3*s.* 8*d.* to relief of rates, the latter sum including 42,108*l.* 6*s.* 8*d.* devoted by the London County Council to relief of rates. Of the 49 county councils 40 are applying the whole of the residue to technical education, and 9 a part of it to the same purpose. Of the councils of the 61 county boroughs, 56 are devoting the whole and 5 a part of the residue to technical education. Further, one county council and the councils of 20 county boroughs, 78 boroughs and 168 urban districts in England are making grants out of the rates under the Technical Instruction Acts; and 14 local authorities are devoting funds to technical education out of the rate levied under the Public Libraries and Museums Acts. Twenty local authorities raised sums by loan on the security of the local rate under the Technical Instruction Acts during the year 1897-98, and 20 in 1898-99. The total amount expended on technical education during the year 1897-98 was 826,450*l.* 5*s.* 1*d.*, and the estimated total expenditure during the year 1898-99 was 834,908*l.* 11*s.* 2*d.*

IT would appear as if builders in Australia resembled those in England in endeavouring to overcome indefinite and varying regulations. An effort is being made to secure uniformity in the conditions of contract throughout the colony. But some difficulty is always arising to keep the reform in continual abeyance. The architects apparently would prefer to have the old conditions continue. The Queensland Builders and Contractors' Association, the local Institute of Architects, and members of the Municipal Council have been endeavouring to formulate a Building Act for Brisbane, but the Municipal Council have yet to deal with the proposals. In Brisbane the carpenters and joiners have been receiving 9*s.* a day, and bricklayers 10*s.*; but according to the latest mails it was understood that the carpenters intend to demand 1*s.* 3*d.* an hour, and the builders had no option but to pay it. In Sydney the application of the Building Act to the suburbs is urgently demanded. On every hand, it is said, miserable little shanties of tin and wood have been springing into existence, depreciating the value of surrounding property, and making the landscape an eyesore. The local authorities, however, have been powerless in the matter, and it will be necessary to bring the subject before the Legislature.

THE outlay on buildings for technical schools during the year 1898-99 has not been excessive. One of the largest items is 35,000*l.* towards the cost of the erection and equipment of the Technical Institution and Museum at West Ham. At Macclesfield 3,673*l.* was expended on the building of the new Technical and Science School. There was a school built at Hyde, in Chester, for the rather moderate sum of 2,250*l.* A large school, known as the Victoria Technical School, has been erected by subscription at Middlewich at a cost of about 3,000*l.*, as a Jubilee memorial. A sum of 1,500*l.* was paid for the erection of additions to the Technical Institute at Gillingham, Kent. The new Technical Schools at Manchester head the list with 39,750*l.*, which was applied towards the cost of their erection. The Department of Science and Art sometimes help to defray the cost, as at Accrington, where they contributed 1,000*l.* to the Municipal Technical School. In London 12,414*l.* was paid as purchase money and for the other expenses in connection with the acquisition of ASKE'S School, Hoxton. The Corporation of Newcastle-upon-Tyne are taking active steps for the purchase of a site and the erection of a School of Cookery at a cost of 8,000*l.* At Southampton the building grants made by the Council, amounting to 11,500*l.*, have been increased to 31,340*l.* through local subscriptions. About 4,000*l.* was expended on the purchase of a site and the erection of a school at Leek, and for the same purpose Lowestoft spent 3,694*l.* The grand total on account of building operations in England during the past year is 132,583*l.*, as against 69,333*l.* expended in the preceding year.

NEXT week the preliminary examinations will begin in the School of Architecture of the University of Pennsylvania for the John Stewardson Memorial Scholarship in architecture, of which the value is 1,000 dols. The holder is to spend one year in travel and in the study of architecture in Europe under the direction of the committee. Candidates must be under thirty years of age, and must have studied or practised architecture in the State of Pennsylvania for the period of at least one year preceding March 14, 1900. In the preliminary examinations a five hours' study of an architectural subject from the cast will be required. In addition each candidate will be required to show the examiners six examples of his work in pencil, colour and pen and ink, all these mediums to be represented. There is to be also a written examination on the history of architecture, as well as on the theory of construction. The candidate must be able to translate at sight any passage in LALOUX'S "Greek Architecture" or some other equivalent work in French or Italian. For the final examination it will be necessary to prepare a design for "The Improvement of the Entrance to Fairmount Park, Philadelphia." The award will be made by a jury of architects, none of whom will be members of the managing committee. The scholarship will be awarded on the result of the examination in design; but the marks in the preliminary examinations may be taken into account in case of doubt on the part of the jury as to the relative merits of competitors in design. The successful competitor will be required to sail for Europe not later than April 21, 1900. All conditions, it will be seen, are marked by fairness, and care is taken as far as possible to avoid the chance of the scholarship falling to competitors who were crammed for the occasion.

ILLUSTRATIONS.

WESTMINSTER ABBEY: CHAPEL OF ST. EDMUND, LOOKING NORTH-EAST. ENTRANCE TO CLOISTERS, LOOKING TOWARDS DEAN'S YARD. TOMB OF EDWARD III

THE ALBION HOTEL, LINCOLN: NEW SMOKING-ROOM.

WEST HAM TECHNICAL INSTITUTE.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

The Works of Gibbs (*continuea*).

(*Continued from page* 147.)

[It may here be stated that the succeeding article was being penned on the day that the eminent architect of whose churches it forms the subject was taken to his rest.]

IT will be observed that the iconology of all the stained-glass in All Saints, Margaret Street, has been chosen with reference to its dedication—single effigies of those holy persons whom the Church brings to our remembrance during the circling year finding places in the windows to the exclusion of groups.

Thus in the south aisle we have in the pair of two-light windows the martyrs SS. Catherine and Alban, and two of the Latin Fathers, Athanasius and Augustine of Hippo; while the three-light window is occupied by the archangels, Gabriel, Michael and Raphael. The east window of the south chancel aisle, with its effigies of Our Lord seated between St. Edmund and St. Augustine of Canterbury (described and illustrated in No. 10 of this series of papers), is by O'Connor, and remains *in situ.* That occupying the same position in the opposite aisle, an elongated window of three lights representing the Adoration of the Lamb, is of the Gibbs-Butterfield fabrique, and recalls in certain features that type of glass which Pugin in his happiest moments loved to design.

In the western window of either aisle three figures typical of Christ are introduced. Noah, St. John Baptist and Moses appropriately fill that of the baptistery, and Enoch, Isaiah and Malachi the one corresponding to it in the north, the great west window being devoted to the genealogy of Our Lord, and based, as was the work of Gerente which it supersedes, upon a study of the celebrated Jesse at the east end of the choir of Wells Cathedral. The general idea and arrangement of this fine piece of vitreous decoration—executed, as mentioned above, about a quarter of a century ago—is so clearly defined by the combined skill of photographer and engraver in the accompanying illustration as to render a detailed account of it superfluous Looking at the window horizontally, the background to each figure or group is alternately deep blue and red, patterned by the tendrils of the vine. Such an arrangement serves to keep the whole in balance and to impart to it an air of greater distinctness, in which quality this window may be pronounced superior to that at the west end of St. Matthias, Stoke Newington, some of the tones being common to both works.

In the All Saints window the plum-coloured cincture of Our Lord in the Crucifixion is particularly pleasing, as are a green and a citron brown employed in the draperies introduced into the figures illustrating His genealogy, while the grace thrown by designer and executant into the Annunciation group just above either subarcuation is very remarkable.

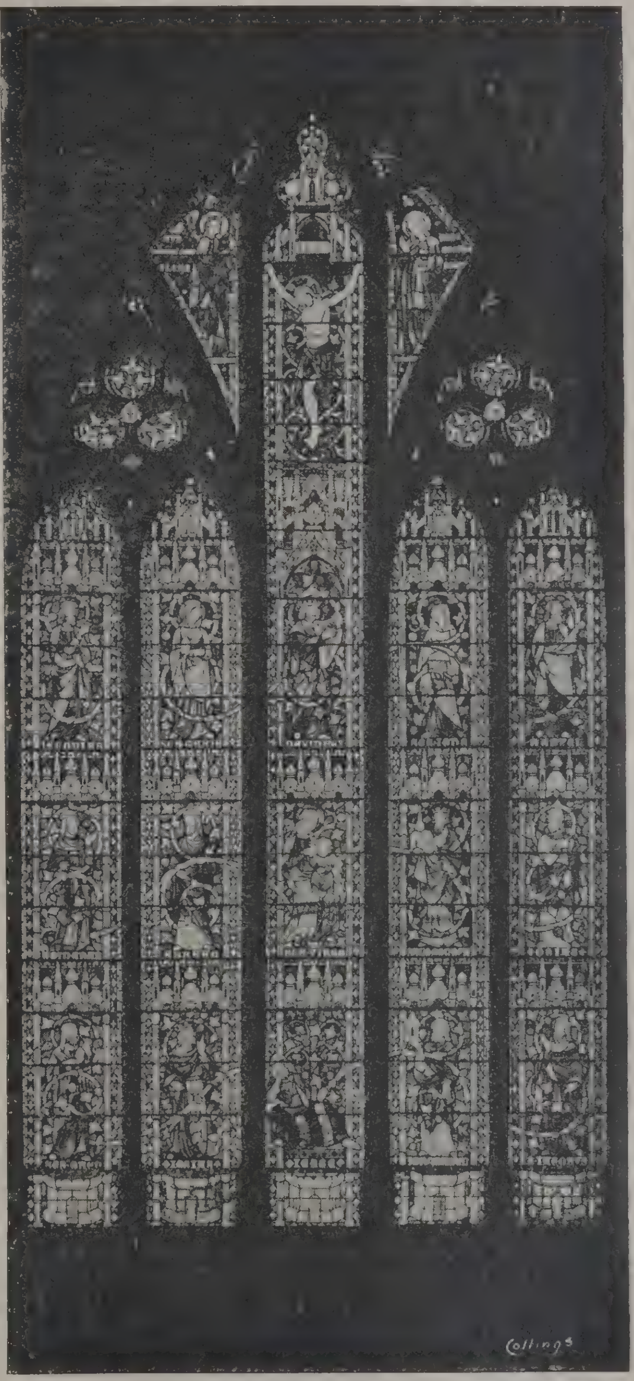
In the west window of the north aisle a blue in the robe of Malachi would be all the better for a toning down, otherwise the hues are sparkling and brilliant, without being gaudy.

Had a little more of the same brilliancy been infused into the glass of the southern windows it would have been as well; it is, however, in key with the surrounding architecture, and is hieratic in character without being sternly archaic.

The glass in All Saints upon which it is impossible to comment favourably is that in the large spherical windows which, enclosing circles, light the clerestory of the chancel. Here, the ground being a cold grisaille, spotted with blotches of staring colour, the ensemble is simply barbaric. That in the nave clerestory is little better.

To a certain extent, All Saints, Margaret Street, is that "model church" of which the Cambridge Camden Society had so often dreamed since its foundation in 1838—a church "which should realise in its design and internal arrangements a *beau-ideal* of architectural beauty, and fulfil at the same time the requirements of orthodox ritual."

Upon the removal of the Society to London about 1845 the idea fructified. The congregation of Margaret Chapel entertaining a plan of rebuilding their place of worship on lines which for that day were eminently ecclesiastical, Mr. Beresford Hope, to whom English ecclesiology owes so much, suggested that the schemes should be blended. His proposal was favourably received. The rector of All Souls, Marylebone (Dr. Chandler, the excellent dean of Chichester), in whose parish Margaret Chapel was situated, did all he could to assist the project; Bishop Blomfield's sanction was asked and obtained; individual generosity, hitherto unheard of in connection with church building, supplemented the amount already collected by the congregation of the chapel; the architectural control of the work was placed in the hands of the Ecclesiological Society; the site in Margaret Street was purchased not without reluctance by Mr. Beresford Hope for 14,500*l.*; and Mr. Butterfield having been selected to prepare plans, the foundation-stone was laid, after considerable delay, by Dr. Pusey on All Saints Day, 1850. The choice of site, dictated by considerations of



All Saints, Margaret Street: The Great West Window.

sentiment, for the congregation of Margaret Chapel were averse to removing to another locality, was unfortunate, hemmed in as it was by tall houses on three sides; but any difficulties that it presented were overcome by the skill which Mr. Butterfield evinced in the accomplishment of his task. Nor is our admiration lessened when it is remembered that all this took place during the late forties, a period in which timid copyism of ancient precedents was the order of the day, and when, architects being content to go in leading strings, design was little better than the compilation and recomposition of the *disjecta membra* of Mediæval buildings. Such a revolt from our insular forms, both in style and material, as Mr. Butterfield's design exemplified, naturally caused surprise and evoked some hostile criticism, which, however, it has outlived. About seven years from the laying of the first stone All Saints stood complete in all essentials, though another two were destined to elapse ere its promoters could witness the accomplishment of their desires.

That the structure on its consecration, May 30, 1859, elicited a deservedly wide-spread interest goes without saying. Even at this distance of time the genius and power displayed in the structure of All Saints—the real smallness of whose area is disguised by the dignity of the proportions—commands unabated admiration, though it may not be possible to approve of certain points of detail and decoration. One of Mr. Butterfield's most distinguished compeers—the late George Edmund Street, who during Mr. Richards's incumbency filled for a considerable period the office of churchwarden*—bears the following testimony to the merits of this epoch-marking church:—"Though I have a rather large acquaintance with English and foreign works executed since the revival of Pointed art, I cannot hesitate for an instant in allowing that this church is not only the most beautiful, but the most vigorous, thoughtful and original of them all."

At St. Alban's, Holborn, the unusual height of his side aisles walls compelling Mr. Butterfield to adopt an entirely different system of fenestration, he broke them up into two divisions. The lower presents a continuous series of unfoliated arches on slender shafts, whose circular lengths of red terra-cotta, hollow and jointed, gave them when fresh from the architect's hands the appearance of drain-tiles; but London smoke and the juxtaposition of adipose heads have had the effect of mitigating this unfortunate resemblance, concealing their joints and toning them down to a not inharmonious brown.

Above are the windows, a series of rather too angularly cinquefoiled, and as regards the south aisle, regularly spaced lancets, two serving for each bay, but the contiguity of houses to the northern side of the church precluded the architect from piercing the wall of his opposite aisle with more than three—one at the extreme west and two at the extreme east end, leaving a distressingly bare strip of plastered walling between. This, it is to be hoped, will at no distant day glow with the pictured story from the brush of some distinguished artist, to the exclusion of "tile frescoes" with "wholesale manufacture" stamped upon them. In default of pictorial enrichment Mr. Butterfield would have done well to have left the brickwork of this portion of both aisles in its natural state, instead of veiling it in plaster, since his treatment of it in the splays of his clerestory windows was so masterly.

Until about twenty years ago St. Alban's boasted no stained-glass beyond the single effigies of an apostle in the northern clerestory of the choir, of the grisaille in the two great three-light windows of the western façade, and of the archaically treated figure of the patron, inserted during 1870 from Mr. Butterfield's designs by Mr. Alexander Gibbs in the westernmost lancet of the north aisle, and in which red and green are, not very agreeably, the prevailing hues.†

With respect to ecclesiastical colouring in general, and stained-glass in particular, there are differences of opinion which it is impossible to reconcile. Some there are who, while admitting the excellence of the series of effigies of saintly women with which during the last twenty years Mr. C. E. Kempe has filled the southern range of aisle windows, will consider the epoch of stained-glass therein represented as too advanced for an Early Middle Pointed building like St. Alban's, preferring some mean between them and the archaically treated figure of England's proto-martyr opposite; while others, assuming that this is a thirteenth-century church, refitted and decorated at a time when English church furniture had reached its highest excellence, viz. towards the middle of the fifteenth century, will accord it the highest praise. To a certain extent the writer's sympathies would most probably be with the first, as he opines that, for windows of this description, no better style of vitreous decoration could be named than that which Sir Gilbert Scott approved of, and which Messrs. Clayton & Bell carried out in the clerestories of All Souls, Halifax, St. Stephen's, Lewisham, and St. Mary Abbot's, Kensington.

Those who wish to see the extent to which Mr. Butterfield valued the aid of colour, even for the exterior of his buildings, should visit St Augustine's, Queen's Gate, considered by many to be one of the most original churches designed by him during the third decade of the Revival, and where, as at St. Alban's, Holborn, one is struck immediately on entering with the great height of the edifice as compared with its width.

Built between 1870 and 1876,* St. Augustine's forms one of a series of churches built by Mr. Butterfield having as their archetype the chapel of Keble College, Oxford, and if in certain decorative features it exhibits what some of his critics have styled "culpable eccentricity of taste," it bears the impress of a mind that laid down for itself certain rules at the outset, and which have been conscientiously adhered to ever since—a mind that has cast aside "obvious and commonplace prettiness for the nobler but more subtle beauties of proportion and refinement, and restless elaboration for sober dignity of effect."

Here, again, Early Middle Pointed was the style chosen, but insular in its form, for through all his experiments in a Southern system of decoration, Mr. Butterfield, in this his style of predilection, remained staunch to English detail

Until the execution of the frightful tile frescoes in the nave aisles of St. Augustine's, the walls in this part of the church, being entirely destitute of windows, presented sufficient natural polychromy to redeem them from bareness, and this although monotonous was far more pleasing and grateful to the eye than the obtrusive manufactures above alluded to, and to accommodate which this fine expanse of walling—another glorious field for the exercise of some great religious painter—has been grievously cut up and thrown away. No wonder the exclamation, "How little art we have in our churches," is of such frequent occurrence.

Depending, as St. Augustine's does, for its chief supply of light upon the grandly-developed clerestory of its nave, it may be questioned whether the insertion of single effigies in positive tinctures, brilliantly but sparingly used, and with a profusion of white in the ground-work, would not have been more in place than the groups which, more or less distorted from the narrowness of the lights, have been put into the two easternmost windows on the south side. So beautiful are the fully-vested figures of the four Latin and four Greek doctors in the chancel clerestory as to make one regret that the same system of iconology is not to be pursued through that of the nave At the same time it is a satisfaction to know that a definite scheme for the vitreous decoration of this fine edifice has been drawn up, for it is to the neglect of this most important rule that the disappointing character of too many a fine English ecclesiastical interior is to be attributed.

The east window of the chancel at St. Augustine's, if not altogether happy in its tinctures—a yellow being rather disagreeably conspicuous—is, as regards its iconography, very telling and effective. A majestic composition of five lights traceried with one large and two smaller foliated circles, it is thrown up in the wall high enough to accommodate not only a

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* In which capacity he was called upon to prepare designs for the eucharistic vestments introduced by Rev. Upton Richards into the services of this church about 1866.

† Similar tinctures are observable in a window by Gibbs in the clerestory of St. Matthias, Stoke Newington, placed here about the same time in memory of John Brett, son of the church's co-founder.

* A temporary church was opened in the garden of the present vicar, Rev. R. R. Chope, in 1865. The nave of the permanent church was completed and ready for service on November 9, 1871, the chancel following five years later, when the structure was consecrated, May 26, 1876.

"tile fresco," but the reredos enclosing the familiar Butterfieldian cross beneath it, a threefold division of height rendered possible by the architect's predilection for keeping his nave and chancel roofs at the same level, totally ignoring the low pitch of the chancel arch, an arrangement about which something will be said further on.

The central light is occupied by the Crucifixion, within an aureole of blue striped with crimson in the form of tongues, the two on either hand having the Patron and the Blessed Virgin, the Beloved Disciple and the Magdalene, all standing against dossals of varied hues, over which is a deep blue ground. The great circle is occupied by the Session in Majesty, within a vesica. Here, although uncrowned, the figure is one of great dignity, the cope being of red and gold, and the under vest white. An angel tossing a thurible fills either of the smaller circles.

ALL SAINTS, MARGARET STREET: THE CHANCEL.

ST. AUGUSTINE'S, QUEEN'S GATE.

In the opinion of the writer, the stained-glass representing seated effigies of the Twelve Apostles, and which fills the four great western lancets, is one of the finest works executed of late years by Mr Gibbs in concert with Mr. Butterfield, inserted as it was as funds permitted between 1880 and 1886.

Many of the tones, which are superb, surpass those at Margaret Street in brilliancy and refinement. Keeping in view their incipient Decorated character, the architect in this imposing group of windows was able to introduce a somewhat more archaic type of accessory, and although white is used but sparingly here, its absence for once is not felt.

The remaining church on our list to be noticed as containing glass of the Gibbs-Butterfield fabrique is St. Clement's, City Road, finished in 1880, and so awkwardly placed between Lever Street and Nelson Street as to have precluded not only orientation, but the erection of an (ecclesiologically speaking) south aisle. When this latter became impossible, it would perhaps have been better if Mr. Butterfield had given us an* essay from his facile pencil in one having two parallel naves, and abandoned an aisled and clerestoried type of church, whereby the extremely unpleasant and lop-sided appearance St. Clement's presents would have been to a great extent avoided. Hemmed in as it is by houses, no general view of this church is possible, but by keeping the roof of his chancel on a level with that of the nave as usual, Mr. Butterfield permitted the eastern elevation to lift its head with no little dignity above the mean parasitical tenements. Entering the church by an ample north-west porch, the first impression of St. Clement's, despite its want of a southern arm, is decidedly striking and impressive—it is needless to add religious—from its great height, length and narrowness. No screen of any height breaks the view, the eye resting almost immediately on the east end, a less grandiosely dimensioned and sumptuously adorned edition of those at Keble and St. Augustine's, but with the same idea pervading it. The five-light window, too, is similarly traceried, the iconology embracing effigies of St. Clement (fully vested) between St. Peter and St. Paul in the three inner compartments, pattern work in each outer one, the rood with SS. Mary and John in the large circle and censing angels in the two smaller ones. The colouring throughout this window is much cooler than that in the same position at St. Augustine's, but the balance would have been better preserved had the outer lights received effigies in lieu of the pattern work—very good of its kind, by the way—with which these portions of the composition have been eked out.

(*To be concluded.*)

A Sessional Meeting of the Sanitary Institute will be held at the Parkes Museum, Margaret Street, W., on Wednesday next, March 14, at 8 P.M., when a discussion will be opened on "Experimental Bacterial Treatment of the London Sewage," by Prof. Frank Clowes, D Sc. (Lond.), F.I.C., chief chemist to the London County Council.

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* An excellent example of this treatment is the church of St. John Evangelist, Ben Jonson Road, Limehouse, built in 1853 by Mr. Clutton. Here we do not seem to feel the absence of a third aisle.

LEGAL POSITION OF ARCHITECTS IN RELATION TO LOCAL AUTHORITIES.*

IN treating of the legal position of architects in relation to local authorities it is not my good fortune to unfold to you a condition of things marked by beauty in design or scientific arrangement, or to deal with a subject which readily lends itself to artistic treatment. This I cannot but regret, particularly when addressing a society of architects. The art of architecture and the work of architects are subjects which interest every reader of history. The more closely they have been studied, the more fascinating have they proved to those who followed them. There are, happily, traces of the many styles of architecture of almost every period still in existence, and they present a panorama of architectural development and transition extending over a great period of the world's history. These examples are enduring monuments of the skill of the artists. They link the present with the past, and illustrate the continuity of the work in which the most illustrious of your predecessors have been, and in which you now are engaged.

I am not presuming to do more than refer to this subject. It brings to mind the importance of the work of the architect of the present day as a practical exponent of a noble and ancient art.

This paper deals with the circumstances under which an architect may sometimes be called upon to carry on his work. It is with much pleasure that I come before you, and I am relieved of some anxiety by your kindness in the suggestion of a subject. I hope a consideration of it will prove useful.

The legislature has, within the last twelve years, not only brought new authorities into existence, but has largely extended the powers and duties of those which have been from time to time constituted. The Local Government Acts of 1888 and 1894 are landmarks in the history of local government outside the Metropolis, and most important changes in the constitution of governing bodies within the Metropolis are introduced by the London Government Act, 1899.

Under our present system, we have county and district councils, municipal corporations, school boards, boards of guardians and other bodies. If we seek information as to the constitution, the powers and duties, and the procedure of these authorities, many statutes must be examined. It will be necessary to refer to the provisions of some of these presently, in some detail, as each of the authorities named has a separate code of laws for its guidance. These authorities are alike, however, in this respect, that they are all corporate bodies having perpetual succession and a common seal, and consequently they are within the general rule of law, which requires the contract of a corporation to be under seal, subject to certain exceptions, which will be noticed presently.

Many important public works are undertaken by these authorities, in connection with which the aid of the architect is properly sought I may mention, by way of example, the provision of municipal offices, public libraries, baths and washhouses, schools, asylums, workhouses and artisans' dwellings. It is the architect who is asked to plan and design these public buildings, and to supervise their construction. They occupy prominent positions in our towns, the municipalities are proud of them, and in many instances these buildings are models of scientific construction, and highly successful from the artistic point of view. A local authority may, and there are not wanting instances in which this has been done, appoint an architect as their permanent officer. This renders it necessary to consider the powers of the various authorities relative to the appointment of officers. An authority may retain the services of an architect, in connection with some such undertaking as I have mentioned, without constituting him their permanent officer. This is the course generally adopted. In both cases the relation is contractual, but in the first-named regard must be had to any special provisions which may exist as to the appointment of officers, as well as to the formation of contracts. It is of the utmost importance to architects that the circumstances under which a valid and binding contract may be entered into with a local authority should be fully appreciated. It is probably within your knowledge, if not within your experience, that many a fee has been lost in consequence of some defect in the form or in the mode of execution of a contract with a local authority. Claims, just and reasonable in themselves, have been defeated by insistence upon some such technical objection on the part of the authority

I cannot do better, in drawing your attention to the general rule of law as to the contracts of a corporate body, than refer to the case of Church *v* Imperial Gas, &c., Company (6 A. and E. 861), decided as long ago as 1838, in which Lord Denman, C.J., said :—"The general rule of law is that a corporation contracts under its common seal ; as a general rule, it is only in that way that a corporation can express its will or do any act. That general rule, however, has from the earliest traceable periods been subject to exceptions, the decisions as to which furnish the principle on which they have been established, and are instances illustrating its application, but are not to be taken as so prescribing in terms the exact limit that a merely circumstantial difference is to exclude from the exception. The principle appears to be convenience amounting almost to necessity. Wherever to hold the rule applicable would occasion very great inconvenience, or tend to defeat the very object for which the corporation was created, the exception has prevailed; hence the retainer by parole of an inferior servant, the doing of acts very frequently recurring, or too insignificant to be worth the trouble of affixing the common seal, are established exceptions." The principle thus laid down has been confirmed and followed in subsequent decisions. When a board of guardians appointed a clerk to the master of a workhouse, not by deed, and during his tenure of office discharged him, it was held that an action for wrongful dismissal would not lie as the appointment was not under seal. In another case it was laid down that the making of plans for officers was not of frequent occurrence nor a necessary part of an urban authority's business It is quite clear, therefore, that the appointment of an architect is not an event of so frequent occurrence or of so small importance as to take it out of the operation of this general rule of law, which requires that the contract should be under seal. This general rule, applicable to corporate bodies, must be considered in connection with the statutory provisions regulating the proceedings of the various local authorities. I think it will be convenient if I now pass to a consideration of some of these special provisions, concerning the appointment of officers and the formation of contracts.

Education Act, 1870 (32 *&* 33 *Vict. c.* 75).—This Act, in section 35, provides that a school board may appoint "a clerk, a treasurer and other necessary officers" to hold office during the pleasure of the board. The authorities may assign to their officers such duties and salaries or remuneration as they think fit, and may from time to time remove them from office. No such appointment is to be made, except at a first meeting of a school board, unless notice in writing has been sent to every member of the board. Two or more school boards may arrange for the appointment of the same person to be officer to both or all of such boards. Schedule III., rule 7, of the Act provides that the appointment of any officer may be made by a minute of the board, signed by the chairman, and countersigned by the clerk (if any), and any appointment so made shall be as valid as if it were made under the seal of the board. In this provision we have a statutory exception to the general rule of law. The appointments of school board officers are not liable to stamp duty. There are no special provisions, as to other school board contracts, in the Education Acts. The general rule of law applies to them. The following decisions of the courts are very instructive as to the relations which may exist between school boards and architects whose services they retain.

In Scott *v*. The Clifton School Board (14 Q B D. 500) the plaintiff by a minute, signed by the chairman and countersigned by the clerk, was appointed architect of the board, and under orders given by subsequent minutes, so signed and countersigned and communicated to him, he prepared plans for the board. It was held that, by virtue of the provisions of the Act, he was entitled to recover payment for his services, although the appointment and orders were not under seal It will be seen, by the judgment of Mathew, J., in this case, that, owing to the nature of the appointment, the architect became an officer of the school board.

In Start *v* West Mersea School Board (15 T.L.R. 442), Wills, J., in giving judgment, said that the claim of the plaintiff took the form of an action for services rendered. The only real contract between the parties was one expressed in a resolution by the defendant corporation to pay the plaintiff 4½ per cent on the cost of construction of the buildings to be erected. The action was in substance an action for breach of that contract, which was not under seal. He would have been glad if he could have taken a different view of the case, for the objection that the contract was not under seal was not one with which he could have sympathy. The objection had been taken, and he could not alter the law. Judgment was given for the defendants with costs.

In the first case the plaintiff, an architect, became an officer of the school board, and owing to the special provisions of the Act he was able to recover for services rendered, a contract under seal not being necessary. In the second case the plaintiff was not an officer of the board, and relied on a contract for services rendered. He failed to recover because the contract was not under seal.

In another case a school board resisted a claim by an architect for 250*l*. as damages for breach of contract to employ him in the erection of schools, and for the loss of 5 per cent on the cost of the buildings, on the ground that the resolution purporting to appoint the architect was not signed by the chairman and countersigned by the clerk as required by the rule, and was not under seal. The case was settled by judgment being entered for the defendants, without costs, the unfortunate architect receiving only 10*l.* 10*s.*, which had been paid into court.

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* A paper read by Mr. E. J. Naldrett, barrister-at-law, before the Society of Architects on Feb. 22.

I will now pass to the provisions of the Public Health Act, 1875 (38 & 39 Vict. c. 55), which imposes upon an urban authority the duty of appointing a clerk, a surveyor and certain other officers, also "to appoint or employ such assistants and other officers . . . as may be necessary and proper for the efficient execution of this Act" (s. 189). The authority may make regulations as to the duties of officers, pay them reasonable salaries and allowances and remove them at their pleasure. The Act also contains provisions that officers are not to be concerned or interested in any bargain or contract with the authority for the purposes of the Act, prohibiting the acceptance of any fee or reward other than the proper salary and allowances, and as to security being given in certain cases.

A surveyor is a recognised officer, but an architect is not mentioned in the Act. The words "and other officers" are probably wide enough to cover the appointment of an architect as an officer of the authority. In such a case the foregoing provisions as to the appointment of officers would apply to him. This course is not likely to be adopted to any extent for several reasons; one is that the surveyor is often called upon to discharge the functions of an architect in connection with small undertakings, and another is that it is always open to the authority to retain the services of an architect, when required, by contract in the ordinary way.

The Public Health Act, 1875, contains provisions as to contracts by an urban authority to which I invite your attention. Every contract whereof the value or amount exceeds 50*l.* must be in writing, and sealed with the common seal of the authority. It must specify the work, materials, matters or things to be furnished, had or done, the price to be paid, and the time or times within which the contract is to be performed; also it must specify some pecuniary penalty to be paid in case the terms of the contract are not duly performed.

These provisions contained in sub-sections 1 and 2 of section 174 are obligatory, not directory merely, and unless observed the contract cannot be enforced. The following sub-sections 3 and 4 contain directions to be observed by the urban authority, but they are directory only, and a failure to comply with them on the part of the authority would not render inoperative a contract in other respects valid

There are a number of decisions by the courts on cases arising under this section. I will refer to some of them by way of illustration

The defendants, an urban authority, verbally directed their surveyor to employ the plaintiff, an architect, to prepare plans for offices. The plans were prepared and the defendants advertised for tenders for building the offices in accordance therewith, but when these were sent in it was found that the plaintiff's plans were upon too expensive a scale, and the intended offices were not erected. There was no ratification under seal of the Act of the plaintiff's surveyor in procuring the plans At the trial the jury found that offices were necessary for the purposes of the defendants, and the plans were necessary for the erection of the buildings for which they were designed, and that the cost of the plans was 94*l.* It was held that, assuming the contract was founded on an executed consideration, the plaintiff could not recover, for section 174 was imperative and not directory, and applied to every contract for a sum exceeding 50*l* entered into by an urban authority (Hunt *v.* Wimbledon Local Board, L R. 4 C.P.D. 56). It has also been held, following the case I have cited, that sub-section 1 applies to an executed contract, of which the urban authority have had the full benefit and enjoyment, and which has been effected by their agent, duly appointed, under their common seal.

When a medical man agreed verbally with a committee, on behalf of an urban sanitary authority, to attend scarlet-fever patients at the rate of 5*s* 3*d* per tent per day, and he attended until the amount was nearly 100*l.*, it was decided that, although more than 50*l.* became due, it was not a contract "whereof the value or amount exceeds 50*l.*" within the section, because at the time of entering into it the parties had not ascertained that it would exceed 50*l.*, and that the authority were liable to the medical man (Eaton *v* Basker, 7 Q.B.D. 529).

An urban authority by contract, not under seal, employed an engineer to perform certain work exceeding in value 50*l.*; this he did, and then required the authority to affix their seal to his contract. This they did. It was held that as part of the work was unperformed when the seal was affixed, and there was consideration for affixing it, in the engineer's promise to complete the work, it was competent for the authority to constitute the contract a good contract under seal within section 174, in respect of the work already done, and that therefore the engineer was entitled to maintain his action for the value of that work.

The absence of a contract under seal is not the only objection which has been successfully taken. A company entered into a contract with an urban district council in writing, duly sealed by the authority, to light by means of electricity certain streets for a period of five years for an agreed annual payment. The contract contained stipulations with respect to the materials to be supplied, the things to be done, the prices to be paid, &c., but contained no clause specifying any pecuniary penalty to be paid in case its terms were not duly performed. It was held that the contract could not therefore be enforced against the authority.

We have it upon the authority of a very eminent judge that the provisions of the sub-sections 3 and 4, to which I have referred, are directory only.

A similar duty to appoint officers is imposed by the Act upon rural district councils The provisions as to contracts relate to urban councils only. They apply to a municipal corporation when acting as an urban sanitary authority.

Municipal Corporations' Act, 1882 (45 *&* 46 *Vict. c.* 50).—In this Act also are provisions for the appointment of certain officers, followed by the general provision, that a council shall from time to time appoint "such other officers as have been usually appointed in the borough, or as the council think necessary," with reasonable remuneration, and to take security for the due execution of the office.

It is improbable that an architect would be appointed an officer of a municipal corporation, except in so far as the borough surveyor may discharge the functions of an architect.

Municipal corporations, however, frequently retain the services of an architect, and the ordinary law as to contracts by corporations, which I have described, governs the relations. The contract should be in writing and under seal. There are no special provisions such as are to be found in the Public Health Act, 8175, but a municipal corporation, when acting as an urban sanitary authority, must follow the requirements of the last-named Act.

Local Government Act, 1888 (51 *&* 52 *Vict. c.* 41).—A county council has under this Act the power to appoint, to remove and to determine the salary of a county surveyor. There are provisions for protecting the interests of existing officers at the time of the passing of the Act. The powers of a municipal corporation to appoint officers other than those specifically named are conferred upon county councils, together with the right to require security and to determine the remuneration, &c. A county council being a body corporate must contract in accordance with the general rule of law.

It was under this Act that the officers of the Metropolitan Board of Works became the officers of the London County Council, and the powers, duties and liabilities of the former body were transferred to the latter. The powers of the superseded authority, in relation to officers and contracts, are noticed in the reference to the Metropolis Management Act, 1855.

London Government Act, 1899 (62 *&* 63 *Vict c.* 14).—Under the provisions of this statute the vestries and district boards of the Metropolis will be superseded by the establishment of borough councils. The powers and duties are transferred. The Act protects the interests of existing officers by providing compensation for those whose offices are abolished or who suffer pecuniary loss. A reference must be made to the Metropolis Management Act, 1855, for the powers of the new councils as to the appointment of officers and entering into contracts. It will be their duty to appoint or continue, with power to remove at pleasure, certain officers, named in section 62, and "such other officers" as may be necessary for the purposes of the Act. There are provisions as to remuneration, taking security, &c. The councils will have power to enter into all such contracts as they may think necessary for carrying the Act into execution. Every such contract for works or materials whereof the value exceeds 10*l.* is to be in writing, and sealed with the seal of the authority. Copies of contracts are to be entered in books kept for the purpose.

It may be pointed out that under the London Building Act, 1894, the London County Council may appoint a superintending architect of metropolitan buildings, with power to remove him and to prescribe the duties and salary to be attached to the office. An architect so appointed is prohibited from practising or following any other occupation He may, however, if he should be prevented by illness, infirmity or other unavoidable cause from attending to his duties, temporarily appoint a deputy with the consent of the Council. The district surveyors of the Metropolis are also under the control of the London County Council, and as vacancies occur they may appoint qualified persons to fill them.

Poor Law Acts (4 *&* 5 *Wm. IV. c.* 76, *&c.*).—The Poor Law Acts and orders contain very precise provisions as to certain appointments enumerated, but there appears to be no general provision under which an architect can become an officer of the guardians. The ordinary contractual powers of a corporate body must be exercised by guardians when retaining the services of an architect. Contracts by guardians must conform to the rules of the Local Government Board. These regulations are applicable to contracts for the supply of goods and the execution of works rather than to the engagement of professional services. The contract should generally be under seal and relate to some matter incident to the duties of guardians. Services retained by minute might be legally paid for by the guardians, but an architect, in the absence of a contract under seal, would not be in a position to recover for his services, except, possibly, in cases where a small amount becomes payable in connection with some obviously necessary proceeding.

There are many judicial decisions on cases of contracts, not under seal, in which guardians have been concerned. I will give a few examples in order of date. A contract for making a plan, not incident to purposes for which guardians are incorporated, is not binding. Gates erected at a workhouse, ordered verbally, are necessaries, and the guardians are liable to pay the price. A builder who executes works in addition to those specified in a sealed contract cannot recover the value. A tradesman who erects water-closets at a workhouse can recover the cost, as the purposes for which guardians are incorporated require that they should be provided. A collector of poor rates cannot recover his poundage. A person employed to investigate incorrect union accounts is entitled to recover for work and labour done. Guardians must pay for coals supplied to them. A medical officer cannot make guardians pay him salary in lieu of notice. The appointment of a clerk to a master of a workhouse at an annual salary is not binding on guardians.

These are all cases of a contract not under seal. You will not fail to realise the importance, in your relations with boards of guardians, of having a contract under a seal.

There is one other matter I desire to draw your attention to in connection with guardians. The time for the payment of their debts, &c, is limited to the half-year within which they have been incurred or become due, or within three months after the expiration of such half-year, unless the Local Government Board extend the time, which they may do, for a period not exceeding twelve months after the date of the debt, &c.

The half-years end on March 25 and September 29.

A parish council is a body corporate, but it need not have a common seal. Any act of the council may be signified by an instrument executed at a meeting of the council and under the hands, or if an instrument under seal is required, under the hands and seals of the chairman presiding at the meeting and two other members of the council.

I have now dealt with the special provisions of the more important of the Local Government statutes. I have not attempted to deal with the provisions of local Acts. It remains for me to make a few general observations.

The appointment of an officer by a local authority appears to be complete by election, and no document in writing is required, but there should be a minute. The authority may properly pay the agreed salary or remuneration in respect of such an appointment. If, however, the officer seek to raise any question as to a breach of the engagement in a civil court, the proceeding will fail if the contract be not under seal. This last observation does not apply in the case of a school board to an appointment under the Public Health Act, if it be worth not more than 50*l*., and under the Metropolis Management Act, 1855, if it be not more than 10*l*. in value.

Notwithstanding conflicting decisions upon the point, the same principle seems to apply to payments by an authority on an apparent contract, apart from the appointment of officers, not strictly in accordance with the provisions of the statute; for example, a contract under the Public Health Act exceeding 50*l*. in value and not under seal. When the debt is justly incurred there is nothing illegal on the part of the authority in meeting it, although the payment is one which could not be enforced by the other party to the contract.

It may be taken as a general rule that members of a local authority become disqualified, as members, if they accept paid office under, or become concerned in any bargain or contract entered in with the authority, or participate in the profit of any such bargain or contract, or of any work done under the authority of the council or board.

I am perhaps in danger of travelling outside the subject in asking you to note that when an urban authority enter into a contract in writing and under seal with a contractor for the construction by him, *e.g.*, of sewerage works, and the contract contains the usual power for the engineer who has the control and supervision of the works to vary, alter, enlarge or diminish any of them, all variations and alterations coming within the terms of the power conferred on the engineer can be validly made without being under the seal of the authority.

The fact must be borne in mind that the statutory authorities referred to cannot travel outside the powers conferred on them by statute. Their acts would be ultra vires. Obligations entered into by authorities in the most solemn form are not binding upon them if ultra vires.

There is another statute to which I feel it is important to draw your attention, viz. the Public Authorities Protection Act, 1893 (56 & 57 Vict. c. 61). It contains the provision that where any action, prosecution, or other proceeding is commenced in the United Kingdom against any person for any act done in pursuance, or execution, or intended execution, of any Act of Parliament, or of any public duty or authority, or in respect of any alleged neglect or default in the execution of any such Act, duty or authority, certain provisions are to have effect. One of them is, that the action, prosecution, or proceeding shall not lie or be instituted unless it is commenced within six months next after the act, neglect or default complained of, or, in case of a continuance of injury or damage, within six months next after the ceasing thereof.

It has not been determined by the courts whether this provision applies to a debt due from a local authority. My suggestion to you is that delays are dangerous. If you should be so unfortunate in your relations with a local authority as to find a resort to legal proceedings necessary, see that you move within the prescribed limit of six months, and thereby avoid the unpleasant experience of discovering that a short lapse of time can be an effectual bar to your claim, and that you have become liable to pay solicitor and client costs.

It has been suggested that this paper would not be complete without a reference to the subject of competitive designs. It is the practice of local authorities to invite architects to send them designs under conditions favourable to themselves, but not always quite satisfactory from the point of view of the architect. I have before me one of these formal invitations which may probably be taken as a fair example of this kind of document. Its terms are such that the local authority reserve to themselves an almost entirely free hand. The acceptance of a design is hedged about with qualifications. If accepted there is no obligation upon the authority to carry out the works in accordance with it. Even if the authority accept and carry out a design they are free to appoint an architect, other than the author, to supervise the works. The estimated cost upon which the designs are based is open to amendment. In these circumstances, beyond securing a premium for an accepted design, an architect has no claim upon the authority, however much of skill and care he has bestowed upon the preparation of the design submitted. He voluntarily places himself in the hands of the authority. In most instances he may safely do this, and rely upon being honourably and fairly treated by the authority. I am informed that exceptions occur, and a grievance is sometimes felt. There is no legal remedy. It may, however, be a matter for consideration whether a Society such as this should not draw up a model set of conditions to govern these competitions, in which the advantages should be more equally divided between the architect on the one hand and the authority on the other. The authorities would probably be found ready to adopt such conditions.

RHIND LECTURES.

THE subject selected for the course of Rhind Lectures in Archæology this year is "The Ecclesiastical Architecture of Scotland from the Twelfth to the Sixteenth Century." The lecturer is Mr. Thomas Ross, architect, one of the authors of the volumes on the "Ecclesiastical Architecture of Scotland" and "The Castellated and Domestic Architecture of Scotland." The course is delivered in the hall of the National Portrait Gallery, Edinburgh.

He began with explaining that during the eleventh century there was a great development of architecture in the south and west of Europe, which reached Scotland after the middle of the twelfth century by the arrival here of the Saxon princess Margaret, her relations and followers. After her marriage with Malcolm Canmore she devoted herself greatly to church work, and in process of time her three sons, Edgar, Alexander and David became notable builders, the latter being the pre-eminent founder of abbeys and churches known in Scottish history, and whose fame in this respect was kept alive by the sarcastic remark of one of his successors on the throne. By their efforts the Celtic Church was gradually pushed into the background, and the Roman Church became the chief factor in Scottish life for the next 400 years. The remains of the architecture of the Celtic Church on the mainland were few, the principal being the three towers of Brechin, Abernethy and Restennet, and they probably exercised a considerable influence on certain towers in the same locality built under the new influence. The number of churches and abbeys founded during the twelfth century was very great, and in the case of what might be called parish churches it was probable that the wants of the country were well supplied for a long time thereafter. There still remain indications of this in the Norman work to be found at about seventy or eighty places in Scotland; while of the places which had churches of that period, and of which no evidence now existed, the number was known to be considerable. It might be considered doubtful if we possessed the means of enumerating them. Many of these buildings, although of small size, were of great richness and merit, as might be seen at Tynningham, Dalmeny, Leuchars, St. Blane, Dunning, Muthill, Lamington, Stobo, Edinburgh Castle and other places, where considerable remains still existed. At many of the places included in the foregoing estimate the indications were scanty, sometimes consisting of only a single stone containing some Norman detail; and, on the other hand, such stately portions as were to be found at Jedburgh, Dryburgh or Dunfermline, the last being the principal Norman church in Scotland. Margaret built a church there, which was continued and finished by her sons, and it might be considered as certain that the existing nave was the work of Alexander and David, from the circumstance that its aisles were intended to be stone-vaulted, having ribs from the very commencement, such a method of construction being unknown till after the period of Margaret's death. The church founded by her probably formed the choir, to which the existing nave was attached. There were at least seventy-five places in Scotland which had indications remaining of having had churches in the Norman style. Apart from abbey churches or cathedrals, they were aisleless structures, the church of Rutherglen being an exception. It was quite possible and probable that the ancient rivalry between Rutherglen and Glasgow, which existed in the twelfth century, might have found expression in the erection of a church in the king's burgh to rival in architectural splendour that of the bishop's burgh, or it might have been the opposite way—the church at Rutherglen might have incited the bishops to outdo it. Be this as it may, the church at Rutherglen was a building of considerable importance.

In the second lecture Mr. Ross resumed the consideration of the Norman churches, principally those of the north and of the islands. These are, generally speaking, less elaborate than the churches of the south, except, perhaps, at Iona, where there is Norman work at the several buildings having considerable architectural display. It was shown that at various times the little island must have presented an epitome of what was going on in the way of building operations on the mainland. Although most of the work belongs to a later age, St. Oran's Chapel, with its enriched doorway, is entirely of Norman work. Some of the early churches in Orkney were described, especially the church of Egilsay and its western round tower. It was contended that the church was a fairly typical example of the churches of the period under consideration. In this connection reference was made to the remarkable church of Cockburnspath in East Lothian, with its western round tower, of which very little notice has ever been taken That it represented the site of a very early building there could be little doubt. Before describing the Norman work in the cathedrals and monasteries, a general description of the arrangement of our abbeys was given, founded on numerous ground plans, hung on the walls. As might be expected from the history of Scotland, no abbey buildings existed in anything like a perfect condition. Newbattle Abbey, although almost the whole walls had been cleared away, exhibited in its foundations, recently laid bare by the late Marquis of Lothian, as good an idea of the general extent and arrangement of such an establishment as was to be found anywhere else in Scotland. Great similarity was observed throughout the country in the arrangement and disposition of the buildings, and there did not appear to have been, as in other countries, plans peculiar to certain orders of monks. Although the general disposition of the buildings round the cloister was the same, there was the utmost variety in the individual buildings themselves and in their architectural details, arising in part from the site, from the wealth of the abbey and its size, and from the periods when its different parts might have been built. Except in the case of five or six abbeys, the church occupied the whole of the north side of the cloister. The chapter-house on the east side was always a building of great dignity, and what was singular was that its west end was practically left open without any enclosure whatever. In the southern range the refectory was the principal building. This in the houses of certain orders abroad always stood at right angles to the church, but every refectory in Scotland was parallel to the church, with the reader's pulpit by the south wall instead of the east wall. The eastern range was devoted to the lay brethren and the outdoor workers, with apartments for guests and travellers, this side not being generally well represented in Scotland. The dormitories were situated above the east and west ranges. More detailed descriptions were given of some of the border abbeys—Jedburgh, Kelso, Dryburgh, and the remarkable church of Coldingham, with its superb gallery The cathedral church of St. Magnus, although begun about 350 years before the islands were ceded to Scotland, might be regarded as a Scottish building, much work having been done at it since. Many of its parts showed fine examples of Norman art, and it finished with a characteristic feature of the style—an eastern apse—which in an extension of the cathedral was superseded by a square east end, as happened at Lindisfarne and Durham, and it was believed at Dunfermline and Coldingham. In Scotland there were only ten such apses, so far as was known, all the other churches of that period being square-ended.

Mr. Ross in his third lecture said there was no example of ecclesiastical architecture remaining in Scotland which was anything like complete, our best preserved buildings being little better than empty shells. It was only from the register and inventories of the great abbeys and churches, and from the accounts of their destruction, that they gathered how rich they were in carved and painted woodwork and metal-work, in books and vestments; while of the great palaces and castles of the abbots and bishops, which, in the case of Glasgow, Aberdeen, Melrose and other places, appeared to have rivalled the churches in size and grandeur, almost nothing remained. The rise and rapid development of great monasteries throughout the country, at a time when towns hardly existed, was probably the wisest and most enlightened policy which could have been adopted. The planting of colonies of 200 or 300 men, all skilled in some kind of craft, was sure to exercise a most beneficent effect throughout the locality, and in the neighbourhood of many abbeys the results of this were visible to this day. The greatest buildings of the kind ever, perhaps, created in Scotland were the cathedral of St. Andrews, with the buildings of the Priory at the same. Begun at the time (1158) when the transition from Norman architecture to Gothic was taking place, it exhibited in its eastern and western gables (all between having mostly vanished), in a striking manner, which might be taken in at a glance, the great advance which was made in the designing and composition of a façade in the course of little more than a century. Prior Winton's descriptions of the building of the cathedral were most valuable, and a fine testimony to their accuracy was borne by the respond of the south transept arcade. This arcade, he informed us, was burned in 1378, and the calcined pillars were renewed, the upper part of the wall being temporarily supported. This respond was quite in the style of the fourteenth century, and would not have been easily accounted for but for the prior's description. Special attention was called to the magnificent wall enclosing the whole buildings, as being the finest thing of the kind in Scotland. The cathedrals of Elgin and Glasgow were next referred to. The former had undergone many alterations, having been enlarged from a three-aisled church to one having five aisles in the nave. Adaptations and alterations repairing the loss of war and fire, and always with a beautiful result, were the record of Elgin. At Glasgow there was more continuity, and probably the original plan was the plan they saw to-day, and which in several most important respects (in its east end and in its lower church) differed from all our other cathedrals. The abbeys of Holyrood and Arbroath were next taken up The first, even in its very fragmentary state, presented a wide range of architectural periods. Its beautiful west front, with its refined and peculiar details and its magnificent doorway, exhibited quite a contrast to the west front of Arbroath, where owing to the peculiar way in which it had fallen into ruin, and the singular trunk-like additions in front of the entrance, the west façade had a forlorn and rugged appearance. But it must have been a most commanding and impressive church, just such a building as befitted the name of William the Lion. Arbroath was fortunate in possessing the Abbot's House yet entire, and the great buildings used by the Abbot's Justiciar, Chamberlain and Bailie. A brief reference was made to the Abbey of Balmerino, founded by the Queen Ermengard, widow of William. Its chapter-house, still fairly entire, was a building of much interest and great beauty.

To show how thickly the country was studded with religious houses Mr. Ross, in his fourth lecture, selected the district extending from Balmerino and Lindores westwards along the Tay, or little more than one day's march to Cupar on the one hand and to Inchaffray on the other. Within this compass there existed eleven such houses at least, with somewhere about nine lesser churches in Perth. Many of the former buildings were of great size and of considerable architectural splendour, but of only two, Balmerino and Lindores, could it be said that anything coherent remained. Two others were marked by some crumbling walls and a few moulded stones, and the remainder had entirely disappeared. Of the nine churches only St. John's was left. This showed in a striking manner how fragmentary the materials were out of which the historian of the Mediæval architecture of Scotland had to piece his subject together. The same story had to be told of whatever part of the country they might turn to. Along the Moray Firth and along the Forth and Clyde the ruins of what were stately churches were to be found in great numbers. The architectural features of several of the abbeys in these districts were referred to, and the lecturer said that at many of them doubtless much lay hidden beneath the soil and beneath the rubbish heaps which marked their sites which would be of great value to all students of Scottish history, if only it could be unearthed. It was pointed out that the abbey of Inchcolm was the best preserved in Scotland, and that it was somewhat different in plan from all the others, inasmuch as three sides of the cloisters on the ground-floor were entirely given up for an ambulatory. In other houses this space was divided into many apartments and devoted to various uses. This ambulatory was vaulted and rather dimly lighted, and was most impressive. The abbeys of Culross and Cambuskenneth were next taken up, the first being peculiar in having a double church divided by a tower of solid walls rising from the ground. The eastern was probably the church of the monks and the western one for the parishioners. Considerable remains of the abbey were in existence, the western range of buildings being better preserved than the same side usually was in Scotland. At Cambuskenneth the detached tower was the principal part left, and it appears to have been erected after the destruction of a former bell tower by lightning in the fourteenth century. It was simply a stronghold, and was probably used as such after the Reformation. The west doorway of the church, much wasted, and the foundations of the monastery still existed. Proceeding to consider some of the later phases of Gothic architecture in Scotland, it was shown that during the fourteenth century comparatively few churches were erected in Scotland, the masons finding occupation in the erection of massive, stubborn castles, and this had a most important effect on the ecclesiastical architecture which was to follow. Cut off, as it were, by this circumstance from following the general trend of Gothic elsewhere, when church building was resumed castellated forms of construction and decoration constantly appeared, and many of our churches, such as Queensferry and Yester, especially in the interior, had as much of a castellated as of an ecclesiastical appearance. Previous to this interruption Gothic architecture in Scotland followed very much the same lines as in England, but thenceforward there continued to be a style peculiar to Scotland, not always strictly Gothic in its construction, but always full of interest and quaint beauty. Yet it is curious to know that it was during this period that the most consistent church of Gothic construction ever built in Scotland was erected at Melrose, the abbey of which was described at some length.

ANTIQUARIAN EXHIBITION AT CAMBRIDGE.

AN exhibition of considerable interest to antiquaries is now being held at Cambridge. A remarkable collection of bronze ornaments, weapons, implements, &c., from the central district of Ireland has been recently purchased by subscription and presented to the University. The collection, henceforth to be called the Murray collection, has been temporarily placed in the Fitzwilliam Museum, where it will be on view between the hours of 10 A.M. and 4 P.M. until Monday, March 12, admission free. The collection contains, among other things, some thirteen bronze swords, more than seventy bronze celts of different types, thirty-five spears and javelins, bronze bracelets, rings and other personal adornments. But the most interesting object is the only bronze celt with its wooden handle complete which has ever been found in the United Kingdom (Evans, "Bronze Implements," p. 155). There is also a bronze javelin, with its original shaft still intact to a length of 3 feet 8 inches. One of the bronze swords is accompanied by the wooden boss which once formed the pommel of its grasp. There are the complete contents of some six separate "finds," several of which contain more than fifty associated objects. One "find" from Queen's Co. contains a magnificent necklace of 108 amber beads. There are also six bronze caldrons, five of the tripod and one of another type; one of the former is of remarkable size. There are more than forty bronze pins and fibulæ. In addition to the bronze objects there are stone axes and flint arrow-heads; one of the latter has still attached the sinew which once lashed it to the shaft. There are three decorated earthenware vases, one of which is accompanied by the skull found along with it in a cist-grave; there are implements of bone and some interesting objects of Mediæval date. It is understood that the Cambridge Antiquarian Society propose to issue during the present year a catalogue, illustrated by photographic reproductions of the principal objects.

THE TEMPLE OF HERA AT ARGOS.

AT the Royal Institution on the 1st inst. Dr. Charles Waldstein, Slade Professor of Fine Art at Cambridge, began a course of three lectures on "Recent Excavations at the Argive Heræum in Greece." The site of the sanctuary of Argive Hera he described as lying on the north-eastern side of the Argive plain, between the ancient cities of Mycenæ and Tiryns and opposite the city of Argos. It was accidentally discovered in 1831 by General Gordon, of Cairness, who made some tentative excavations in 1836, continued in 1854 by Rhangabé, but the whole of it was finally excavated in 1892-95 by the American Archæological Institute and School of Athens, under the direction of the lecturer. The result of this latter work was not only to lay bare the whole of the great temple of the fifth century, but also to reveal traces on the upper slope of the earlier temple, built before the Homeric age and burnt in 423 B.C. by the carelessness of the priestess Chrysis. Of this early temple, spoken of by Homer as the temple of Hera, the whole pavement was found, together with traces of civilisation leading back by facts, not by mere inferences, to a period 2,000 years or more before Christ. From these early beginnings there was an uninterrupted chain of evidence through the greatest Hellenic periods down to Roman times and later. Archæology was sometimes regarded as a dry-as-dust sort of study, but such a fact was, he thought, sufficient to vindicate its poetry. With the aid of a long series of lantern slides Dr. Waldstein proceeded to give a complete survey of the site excavated, which before digging was begun looked an ordinary hillside sloping down to the plain in an unbroken roll. Of the second temple there was found not only the base but also sufficient remains of columns, &c., to enable a complete architectural restoration to be made, while higher up the hill the polygonal pavement of the upper temple was discovered, together with portions of the wall, so that the outline of its plan could be determined and even a fair restoration of the structure itself carried out. Views were also shown of the cyclopean foundation-walls on the upper platform, with their huge stones 18 feet long; of a building, probably a gymnasium, dating from the end of the sixth century, whose ground plan was clear on the south-west of the site; of a colonnade, with the remains of some columns still existing, from which a long marble staircase led up to the second temple; of a kind of propylæum of the Mycenæan period, and of several other buildings.

GENERAL.

The Death of Mr. E. Emlyn White under tragic circumstances has excited much regret. He was in the prime of life, and all who knew him believed in his ability as an architect, and esteemed him for his social qualities and honourable conduct.

A Paper on "English Furniture" will be read by Mr. Lasenby Liberty before the Applied Art Section of the Society of Arts on Tuesday next.

Glass Bricks are now being made in Penzic, in Silesia.

Landscape Architecture will henceforth be included in the curriculum of the Massachusetts Institute of Technology. Horticulture, surveying, geology, landscape design, drainage, water supply, roadwork and allied subjects will be taught in addition to the architectural and engineering subjects necessary for an understanding of the more specialised work.

Mr. J. Shiress Will, Q.C., will read a paper on Monday next before the Surveyors' Institution upon "Underground Water."

The East Ham District Council have decided on the erection of an isolation hospital at the extreme end of the district, which will cost 40,000*l.*

Sir B. C. Browne, D.C.L., will on Wednesday present the prizes to the successful students of the Northern Architectural Association.

The Collection of water-colour drawings by Signor Luigi Bazzani, of Rome, has been lent to the Birmingham Art Gallery by the Science and Art Department. The drawings represent the latest excavations at Pompeii, and include the magnificent house of Vettius, and the very beautiful mansion known as the Nozze d'Argento, which latter was cleared to commemorate the silver wedding of the King and Queen of Italy.

The New Art Gallery in Bath is now complete. Several pictures and other works of art have been presented to it, and a lady has contributed 10,000*l.* towards the outlay.

The Council of the Iron and Steel Institute have decided to award the Bessemer gold medal to M. Henri de Wendel, of Joeuf, Meurthe-et-Moselle, France. The presentation will take place at the annual meeting to be held in London on May 9.

The Annual General Meeting of the subscribers and donors to the Architects' Benevolent Society will be held in the rooms of the Royal Institute of British Architects on Wednesday next. Mr. William Emerson will take the chair at five o'clock.

A Stained-glass Window, which is now in course of erection in the north-end transept of St. Paul's Cathedral is the generous gift of the late Duke of Westminster. Sir W. B. Richmond, R.A., K.C.B., has executed the design, the subjects being the archbishops and bishops under whom the new faith was introduced or restored under the Saxon Heptarchy, viz. for Kent, Augustine, Theodore; for the East Saxons, Mellitus, Cedd, Erconwald; for Northumbria, Paulinus, Aidan, Chad; for Wessex, Birinus, Wilfrith; for Mercia, Diuma; for East Anglia, Felix. Theodore, Archbishop of Canterbury, is included in the series, his great work of organising and welding Christianity justifying his admission. In the south-end transept window (also given by the late Duke) are representations of the kings of the Heptarchy.

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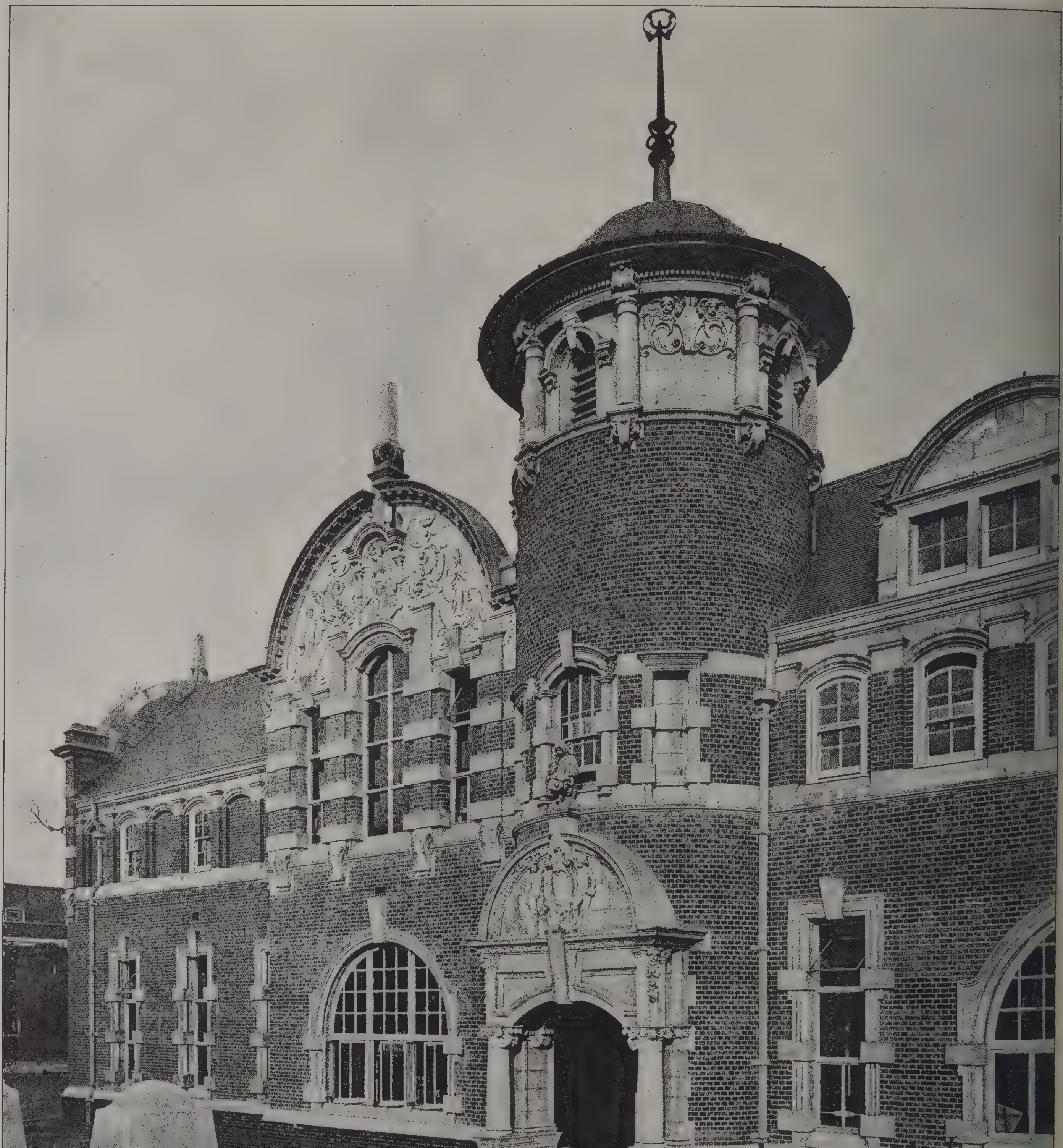

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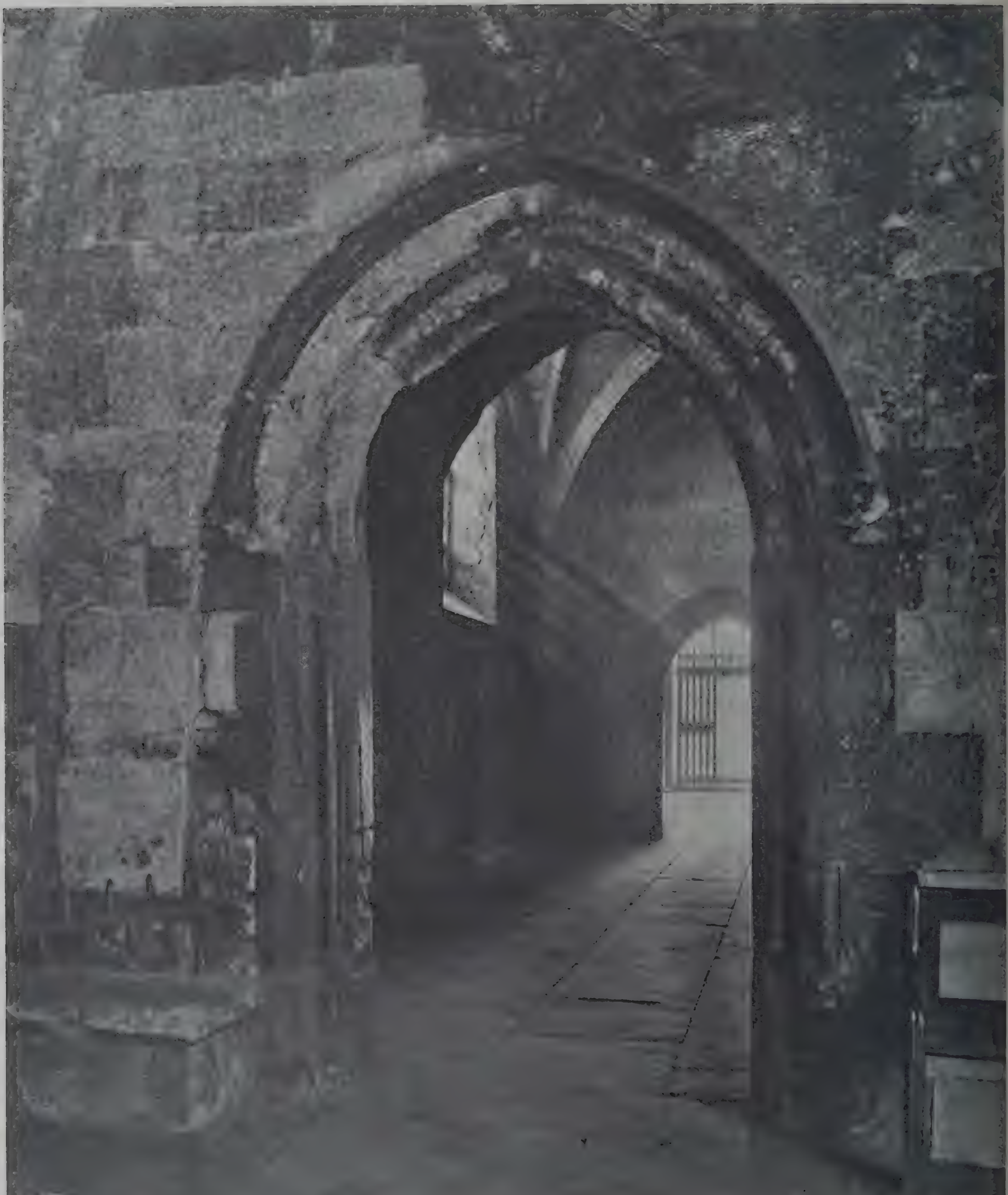

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WESTMINSTER ABBEY, No. 27.

ENTRANCE TO CLOISTERS, LOOKING TOWARDS DEAN'S YARD.

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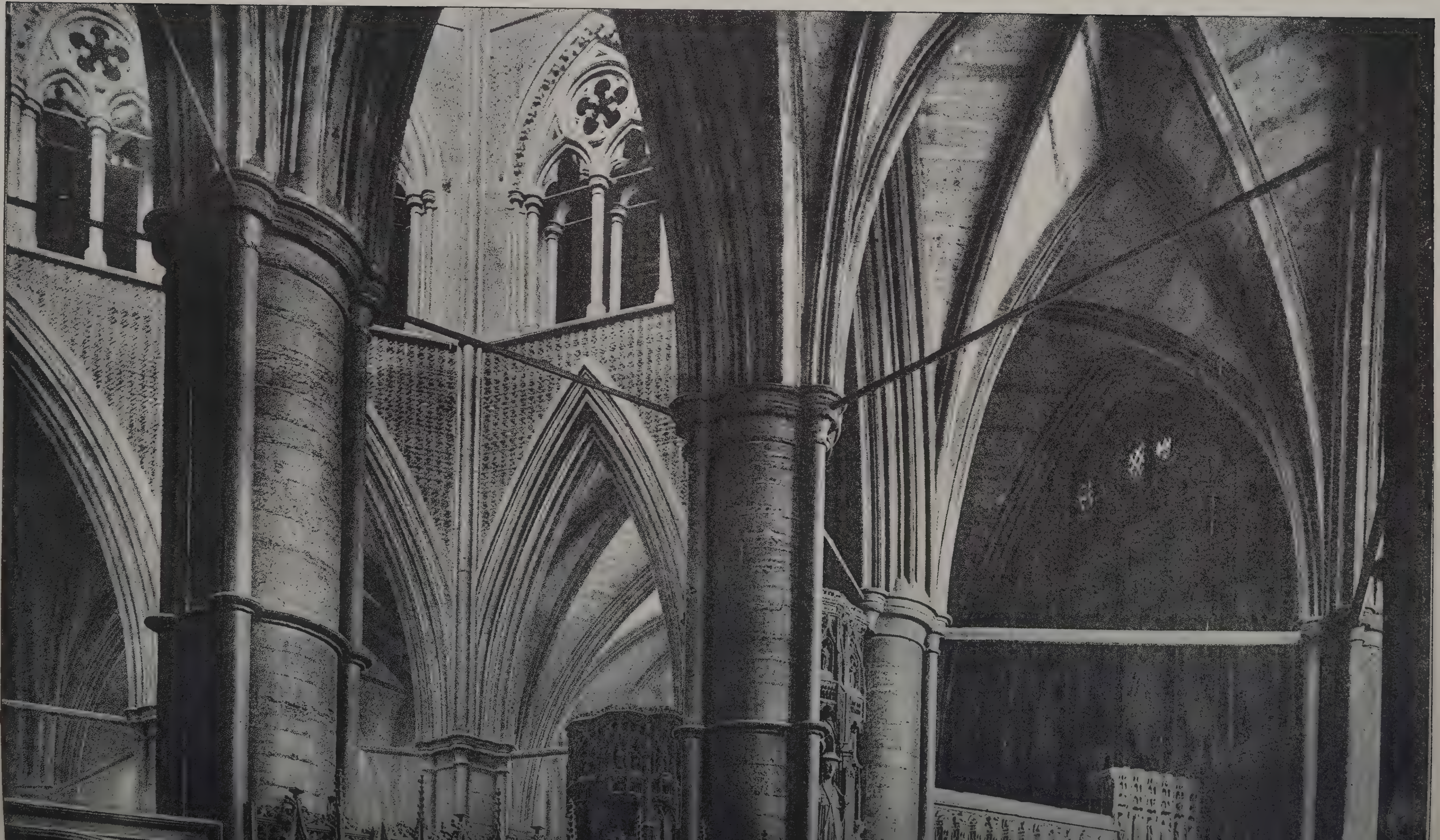

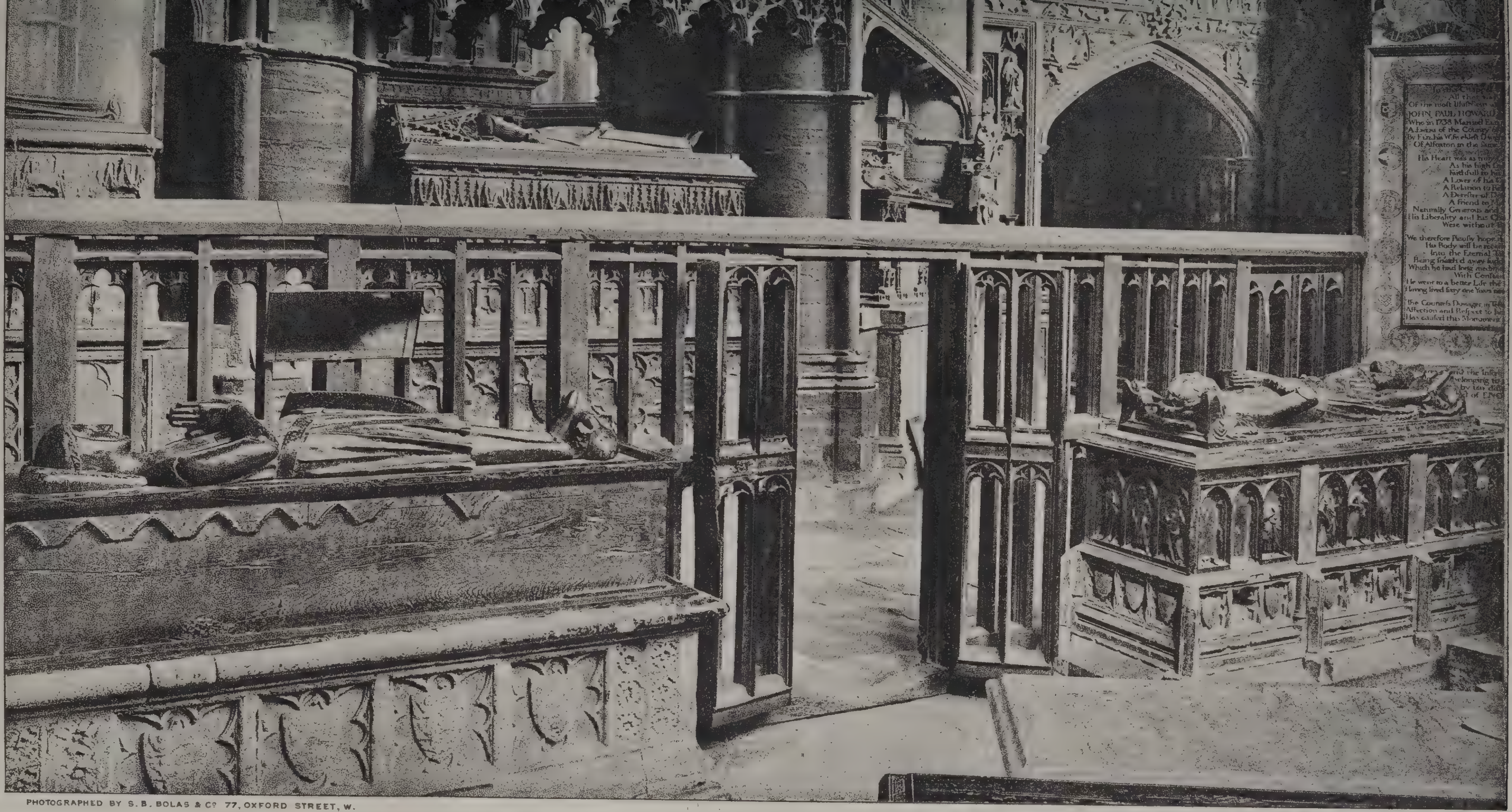

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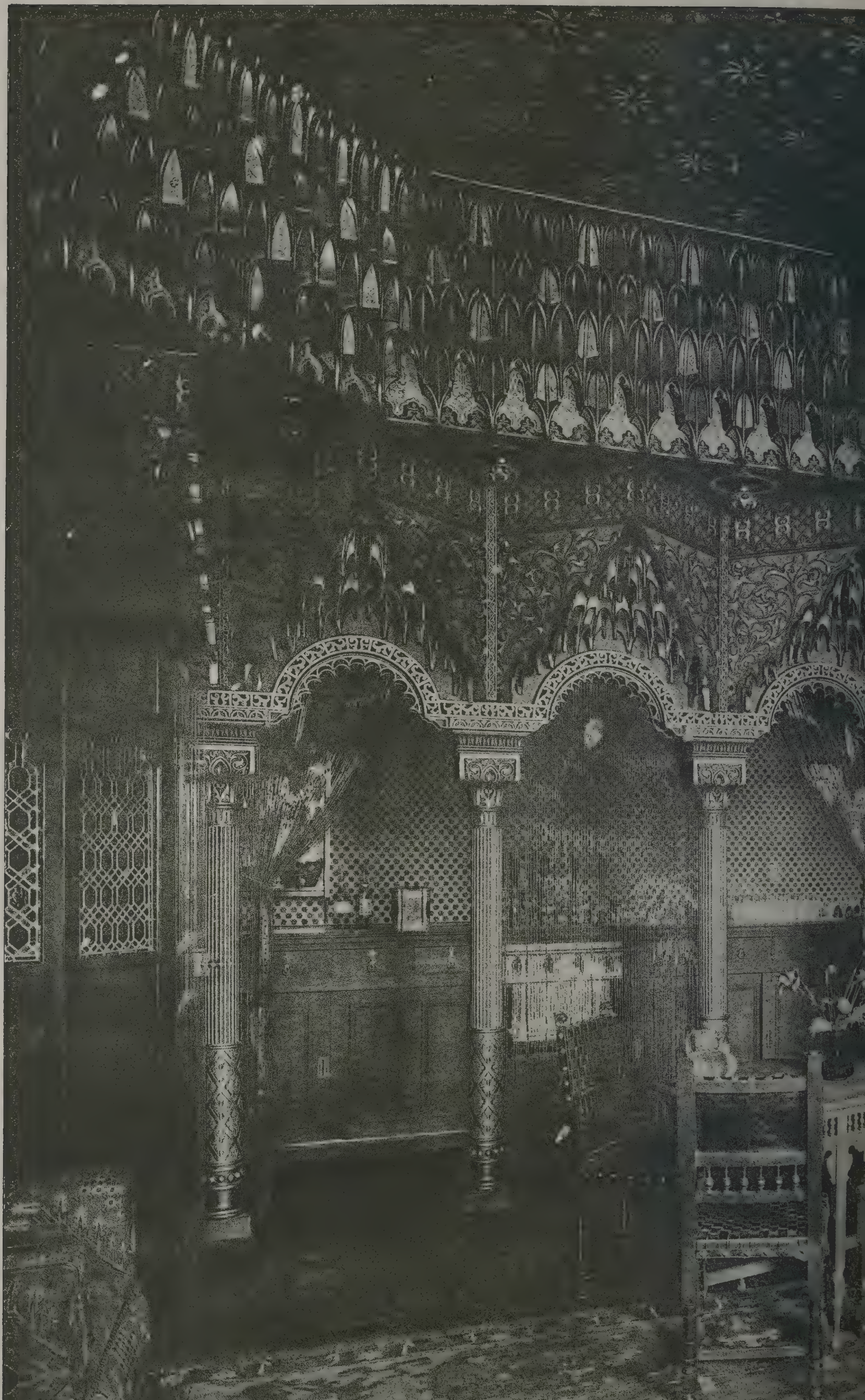
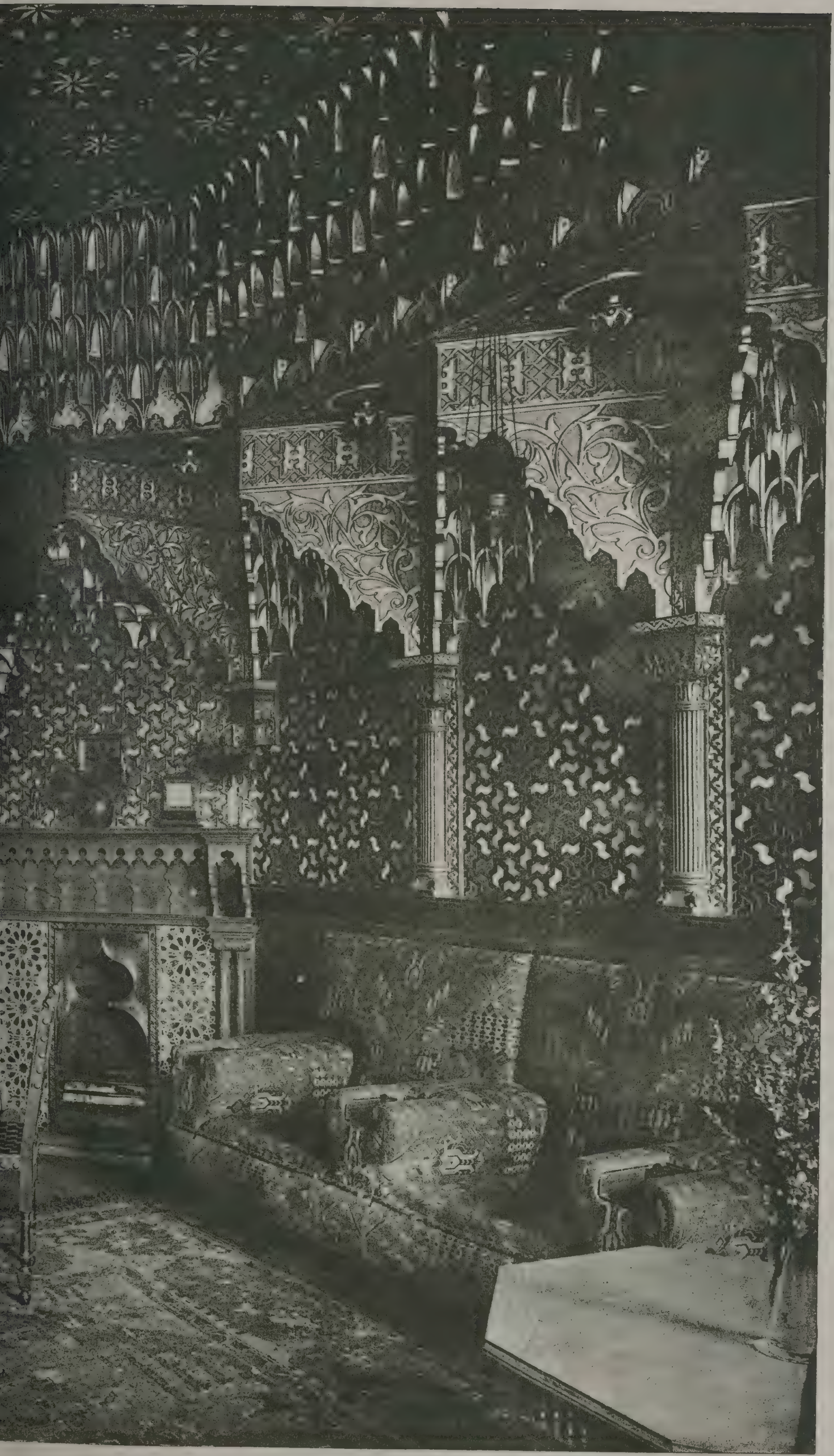


THE ALBION HOTEL, LI

Messrs. W. WAT

9th 1900.



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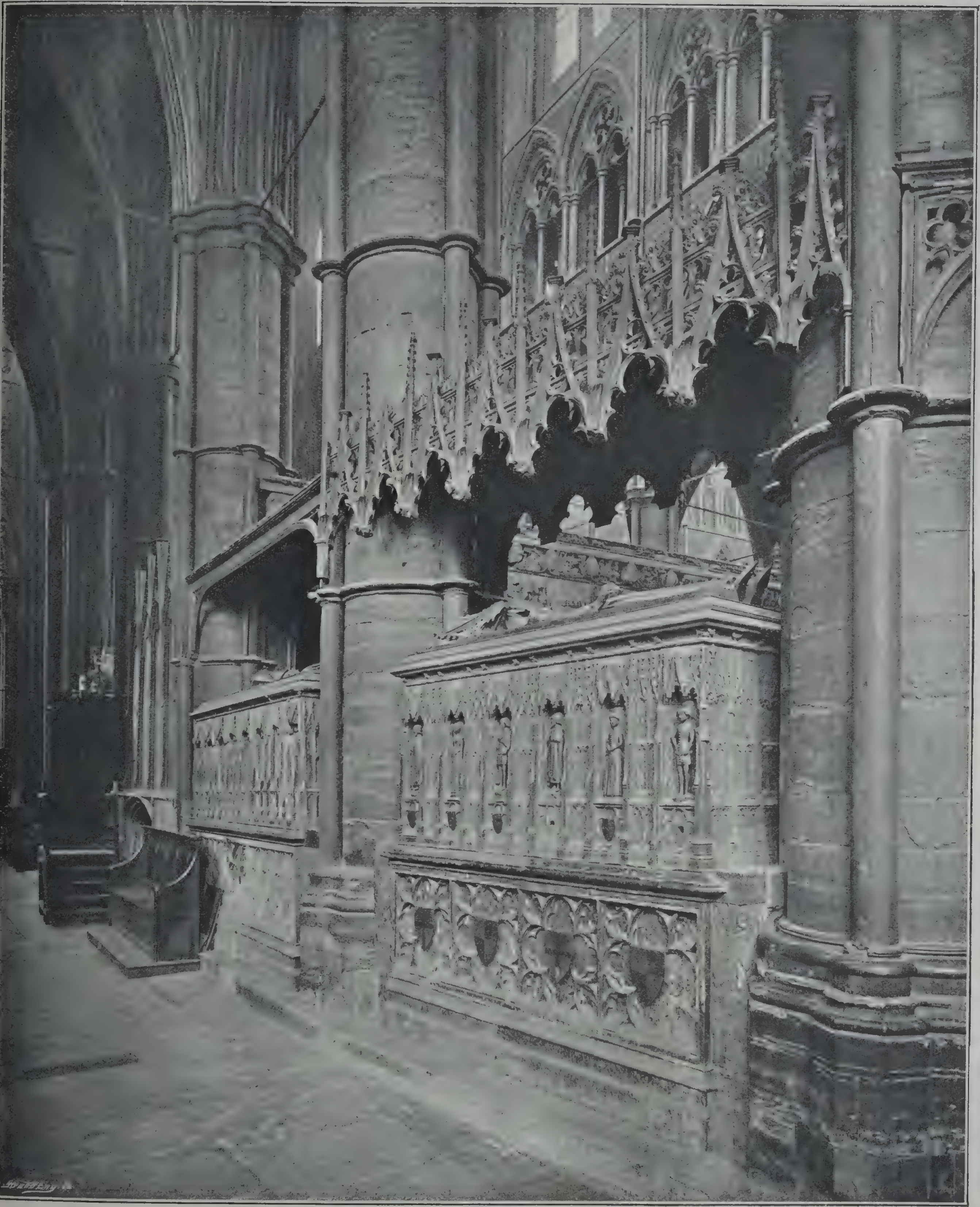
EW SMOKING ROOM.

Architects.



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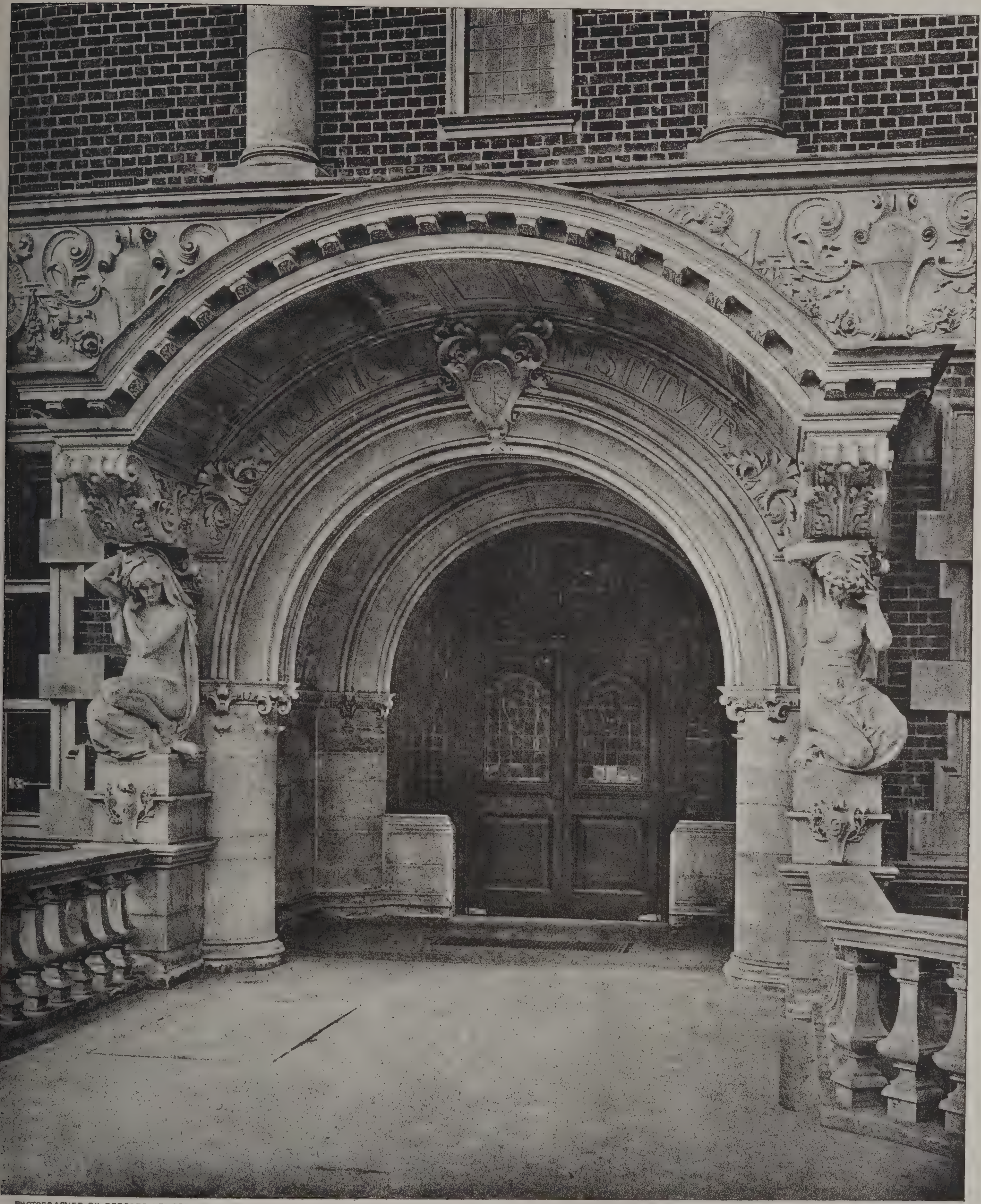
WESTMINSTER ABBEY, No. 28.

TOMB OF EDWARD III.



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WEST HAM TECHNICAL INSTITUTE.

Messrs. GIBSON & RUSSELL, Architects.

The Architect.

THE WEEK.

In an article which appeared in last week's *Architect* there were some remarks about the enormous prices which had to be paid to remove property which was a source of danger to the Metropolis. What we said then was confirmed on Tuesday by Mr. Waterlow in his speech at the meeting of the London County Council. He pointed out that in a speech by Mr. Chamberlain it was stated that the large sum of 1,011,336*l.* was expended by the Metropolitan Board of Works in clearing insanitary areas. The money worked out at the average rate of 17*s.* per square foot, and yet the value of the land for rehousing purposes was valued at only 3*s.* 4*d.* a foot, or one-fifth of the price which had been paid for it. That result is a comment on the laxity with which the negotiations for purchase must have been carried on. The County Council do not seem to have been warned by the example of their predecessors in governing London. Already the sum of 1,114,800*l.* has been extended for the acquisition of insanitary areas; the average rate paid is 15*s.* 6*d.* per square foot, and the correct value has been a third of that sum. That there was an absolute loss of 762,300*l.* is unquestioned, but we suppose the Council will maintain that, as in the case of the deficiencies in the Works Department, the ratepayers have gained by those amazing financial transactions. It is true that in 1890 the housing of the working-classes committee submitted the following suggestion to the Local Government Board on the existing state of the law:—"That the law should declare it is the duty of the freeholder to see that dwelling houses on his property are fit for human habitation by enforcing the repairing clauses in his leases, and taking all other necessary steps. Where an official representation under the Act has declared that the dwelling-houses in question are not fit for human habitation the freeholder should have the power to re-enter into possession, but there should be put upon him the obligation to rebuild upon the site dwelling-houses for the working classes. In the event of the freeholder not fulfilling his obligation the local authority should be empowered to take possession of the land, paying only the market value of land subject to the obligation to rehouse persons of the working classes, and the local authority should then be required to rebuild dwelling-houses for the working classes on that site." But when the operations of the Council in respect of works are considered, the Local Government Board, or any other governmental department, should be excused in showing hesitation to accept the Council's proposals to effect economy.

If the number of decisions of the Lords Justices in the Court of Appeal with respect to the Workmen's Compensation Act can be of any use to legislators, there should be little difficulty in obtaining an amendment of that most marvellous Act. It would, indeed, be difficult to discover a measure which in a brief period has given so much employment to solicitors, barristers and judges. One of the latest decisions affirms that a road which is over a quarter of a mile distant from the building in course of erection was not a building or a factory or a place "about" a factory. The circumstances were curious. A carter was conveying water to a shed at Chingford, where there was a mortar-mill. On the road the horse took fright, the carter was knocked down and the cart passed over him. He claimed compensation under the Act, and the county court judge at Bow decided that the carter was a workman employed at the shed, which, owing to the steam-engine, was deemed a "factory" within the Act, and he held that the workman met with the accident while at work "about" a factory. Mr. Miller, the builder, appealed Lord Justice A. L. Smith said unquestionably the Act intended to give the benefit to workmen who would not come under the words "in or on" a factory when the accident happened, and therefore the words "or about" were added to cover accidents which happened outside the four walls of the factory itself. But it was equally clear that some limit must be placed to what the words "about a factory" must be held to cover. Here the evidence was all against the judge's finding that the accident happened while the workman was employed "about the engine shed," and the master's appeal must be allowed. The other Lords Justices concurred. The original judgment raises a very curious question. The Act was supposed to deal with accidents which were caused by things without life, such as scaffolding, ladders, cranes, &c., or by machinery. It is easy to suppose that if care of them is neglected an accident may arise, and the owner or employer ought to be held responsible for the consequences. But however great may be his anxiety for the safety of his workmen, an employer cannot provide against accidents which are caused by men or animals. There was a case this week before one of the London aldermen which related to an act of violence by a picketer. He entered premises which were being erected and struck a workman so violently as to cause insensibility for sixteen hours. The ruffian was sent to prison for a couple of months. But is his employer to be held responsible for the injuries which the victim endured? It is still more difficult to guard against the sudden emotions of horses. Mr. Miller's horse was probably a quiet animal, but he was frightened, and we cannot see why a builder should be made responsible for passionate outbreaks which cannot be foreseen. If so it will be necessary to employ motors wherever materials have to be carried.

The Lord Mayor of Dublin having stated that the services of members of the Irish Institute of Architects would be welcomed on the general and executive committees appointed in connection with the Queen's visit to the capital, the following members have offered their services:—Messrs. Thomas Drew, R.H.A., president; Albert E. Murray, A.R.H.A.; Charles A. Owen, G. Charles Geoghegan, J. Rawson Carroll, William M. Mitchell, George C. Ashlin, R.H.A.; W. Kaye Parry and Frederick Batchelor. There is scope enough for them to exercise their ability if public decorations can be agreed on. Dublin lends itself to such purposes more readily than many wealthier cities, but it is doubtful whether the Corporation will utilise the skill of any architects. As well as can be judged, a policy of inactivity is likely to prevail in municipal circles. Her Majesty will, no doubt, follow the direct route to the Viceregal Lodge in the Phœnix Park, as on former occasions. The Queen will not therefore pass through many of the better class streets, but in those through which the procession will pass something should be done to express the national welcome. Owing to recent revelations we suppose the quays will be avoided as much as possible, for the malodorous Liffey cannot easily be made innocuous. For anyone who has been accustomed to live at Osborne or Balmoral, the Viceregal Lodge which has to serve as a royal residence will offer many tests of patience and endurance.

An interesting exhibition is open at the gallery of the Royal Photographic Society. It consists of examples of the work of the National Photographic Record Association. The Association was founded in 1897 for the purpose of obtaining representations of buildings or sites which have public interest, but which are liable to be removed or transformed. As the photographs are presented to the trustees of the British Museum they can always be referred to by inquirers. Already many historic examples have been reproduced from England, Ireland and Scotland. The president of the Society is Sir Benjamin Stone, who has gained a reputation as the representative of photography in the House of Commons. Everybody must remember his portrait in *Punch*, in which he is seen taking the cap from his lens and saying to his subject, "Quite still please, and imagine you have been offered a peerage." The President is anxious to obtain the aid of amateurs, for it will be advantageous hereafter that a graphic current history of the country should now be formed, and the technical merit of the photograph, provided it is in a permanent process, such as platinotype, is of secondary importance as compared with the facts which it records. There are several interesting Parliamentary portraits, and photographs also appear of some interesting old buildings which have been removed in the course of some recent metropolitan improvements.

WESTMINSTER ABBEY AND ITS REPARATIONS.

VISITORS to Westminster Abbey and the public in general have concentrated their attention on the monuments rather than on the building. It is not, therefore, surprising to find a little panic has arisen over the words spoken by Mr. Micklethwaite a few days ago about the condition of the stonework of the Abbey. In a lecture on the building, or rather in a commentary on a series of lantern slides representing it, he said that fragments of the exterior fell from time to time, and he ascribed the cause to the fumes which arose in Lambeth. The sulphuric and hydrochloric acids and other air-borne products which arose from the potteries in Lambeth were supposed to overcome the adhesion of the stone. A few years ago, it may be remembered, the same acids were said to affect the health of the members of the Legislature, and for a time it seemed as if the owners of the potteries were to be punished by heavy fines and imprisonment. Fortunately the further investigation revealed that the members of the two Houses suffered through the excess of microbes in the elaborate drainage chambers of the building. It is therefore not improbable the Lambeth potteries are as guiltless of the destruction of the masonry of Westminster Abbey as of the debility of our legislators.

It is well to remember that the Westminster air has been for a very long time fatal to stone. Richard II. was compelled to erect an immense wooden porch, projecting 17 feet, in order to protect the front of the north transept, of which the decay began almost from the time of its erection. From its beauty the work was known as Solomon's Porch. Why it should be specially inimical to the injurious agents of the London atmosphere is unknown. But what was apparently the most gorgeous part of the exterior has vanished as completely as if it were no more than the baseless fabric of a vision. That is only one example among many of the inability of the best masonry to resist the attacks of wind and weather in such a position. Coal fires from an early time also produced their effects. The "corroding and piercing smoke of the sea coals" was in the beginning of the eighteenth century declared to be one of the causes of the decay of the wondrous porch, and since that time the danger has much increased. In fact, all those causes have attained a magnified power, and it is not to be expected that building stones can offer greater resistance now than in an earlier age.

But apart from the atmosphere, Westminster Abbey has been remarkable from a remote time for the constant necessity of reparation. From the importance of the buildings more attention was likely to be given to their condition than to an ordinary cathedral or church. Whatever was the cause, the history of the abbey contains records of defects and of appeals for money to remedy them. We lately referred to the letter from Edward IV. to the Pope, in which the abbey was described as being in 1478 "decayed by lapse of time and almost on the point of actual ruin." The words are remarkable, for they reveal that sixty years prior to the Reformation the condition of the abbey was unsatisfactory. At an earlier time we read of donations of money and materials by kings and queens for the purpose of keeping the building in a sound state. The money which was required for the conservation of the church and monastery was probably derived from the rents of the farms belonging to the Dean and Chapter, and as agriculture in those days was more precarious than it is now as a source of income, we suppose the fabric fund was often likely to be in an unsatisfactory condition. After the Reformation the character of the abbey as an ecclesiastical institution was altered. There was no need for monastic buildings. Some of them were removed, and chapels connected with the church were also taken down. A gift of Caen stone from the abbey was not considered an unacceptable present by one of the great courtiers or statesmen. Much of the property of the abbey was secularised, and in the arrangements there does not appear to be any mention of lands or other property which had been assigned for the maintenance of the buildings. According to Dean Stanley, "It was by a hard struggle in these tempestuous times that the abbey was saved. Its dependency of the Priory of St. Martin's-le-Grand was torn to pieces and let out to individuals. Its outlying domains to the east of Westminster, it is said, were sacrificed to the Protector Somerset, to induce him to forbear from pulling down the abbey itself. The Chapter Book of these years is filled with grants and entreaties to the Protector himself, to his wife, to his brother, and to his servant."

Dean Williams, who presided over the abbey from 1620 until 1640, on his appointment found the abbey entrusted to him in a state that was enough to make a Churchman despair. According to his biographer:—

> All that passed by, and loved the honour of God's house, shook their heads at the stones that dropped down from the pinnacles. Therefore, that the ruins of it might no more be a reproach, the godly Jehoida took care for the temple of the Lord, to repair it, set it in its state, and to strengthen it He began at the south-east part, which looked the more deformed with decay because it was coupled with a later building, the chapel of King Henry VII., which was tight and fresh. The north-west part also, which looks to the Great Sanctuary, was far gone in dilapidations; the great buttresses, which were almost crumbled to dust with the injuries of the weather, he re-edified with durable materials and beautified with elegant statues (among whom Abbot Islip had a place), so that 4,500*l.* was expended in a trice upon the workmanship. All this was his cost; neither would he impatronise his name to the credit of that work which should be raised up by other men's collatitious liberality.

During the Civil War it was not to be expected much attention would be given to the state of the abbey. It was also doubtful what position the church were to hold under the new system of ecclesiastical government. On the restoration of the Monarchy there was accordingly plenty of opportunities for outlay. John Earles, who was the man of all the clergy for whom Charles II. had the greatest esteem, was Dean only for a short period, but in that time he was supposed to have been liberal in giving money for the support of the fabric. His successor, John Dolben, held office for twenty years. The roof and vaulting were in a dangerous condition. Through his influence the Chapter resolved to assign a fifteenth share of the income derived from land and houses to the repairs of the abbey. The arrangement continued from 1662 until 1868, when the landed and other property which remained was transferred to the Ecclesiastical Commissioners.

By a stroke of policy the Dean and Chapter were enabled to share in the money which was raised for the erection of St. Paul's. The Act of 1697 for completing, building and adorning the cathedral church of St. Paul's was made available also for repairing the collegiate chapel at Westminster. One-sixth of a duty levied on coals imported into London was to be paid over to commissioners for that purpose. Sir Christopher Wren was entrusted with the works of both buildings. Francis Atterbury, bishop of Rochester, was then dean. He was a strong Jacobite, ambitious to become an English Richelieu, and as such he is represented as one of the conspirators in Thackeray's "Esmond." But with all his plotting he was zealous for restoring the abbey; perhaps it ought to be said, too zealous, for he allowed architectural innovations which were degrading to its character. According to Dean Stanley, "He superintended with eagerness the improvements of the abbey, as they were then thought, which were in progress. The great north porch received his peculiar care. The great rose window in it, curiously combining faint imitations of Mediæval figures with the Protestant Bible in the centre, was his latest interest. There is a charming tradition that he stood by complacently watching the workmen as they hewed smooth the fine old sculptures over Solomon's Porch, which the nineteenth century vainly seeks to recall to their vacant places." It is also recorded of him that after his trial for treason he made the request that he should be allowed to walk from the House of Lords to have a last look at the rose window which he had erected in the north transept, but the favour was refused.

There is an interesting letter from Sir Christopher Wren to Atterbury which was written in June 1713. In it we have a description of disintegration which corresponds with what is now taking place. Wren wrote, "The stone is decayed 4 inches deep, and falls off perpetually in great scales" He also condemned the use which was then made of Reigate stone as a substitute for genuine Caen stone, and in consequence "the whole fabric was disfigured in the highest degree." The stone in the chapel of Henry VII. he described as "so eaten up by our weather as to call for some compassion," a sentimental touch in Wren which surprises us. The money derived from the coals was not sufficient to defray the expenses of restoration in the abbey. From time to time large sums were granted in addition by Parliament. Dean Wilcocks was occupied with costly repairs during the quarter of a century in which he presided over the Chapter. So proud was he of his share in completing Wren's towers, he introduced them in his own portrait and on his monument. At the beginning of the century the most dilapidated part of the abbey was Henry VII.'s Chapel. The Chapter were obliged to expend 1,900*l.* in repairing the beautiful vaulting. In the abbey the roof was consumed by fire in 1803, and nearly 4,000*l.* had to be obtained to remedy the damage. Dean William Vincent resolved to petition the House of Commons for aid. In the statement which was prepared it was shown that in twenty years the Dean and Chapter laid out no less than 29,000*l.* on the abbey. In response to the petition a sum of 2,000*l.* was granted. For some years afterwards additional grants were given. Between 1809 and 1822 the donations from Parliament amounted to 42,000*l.*, and there was no surplus.

A good deal of the neglect which was so costly to repair could easily have been prevented. The Westminster boys were allowed to skip from tomb to tomb in the chapel of the Confessor. Football could be played in some parts of the abbey; the triforium at the end of the north transept was used as a store for scenery. Some of the statues in King Henry VII.'s Chapel were taken down, lest they should cause injury to members of Parliament by falling on them. It was proposed to remove the chapel of the revestry, and to fill up the intercolumniations in the nave with monuments. But as time went on a more reverential and affectionate feeling arose for the abbey. When one of the bells was transferred to St. Paul's the people rose to prevent the removal, and it was only by good fortune there was not a riot in the street. Various Acts of Parliament were passed by which the income was regulated, and few years elapsed without an outlay on the abbey. Yet it was reported in 1882 that unless there was a very large expenditure of money serious results might follow. In 1886 the Ecclesiastical Commissioners were empowered to raise 10,000*l.* to remedy the insecurity, and it was also resolved that 3,250*l.* should be set aside every year towards keeping the building in substantial repair. It was not to be expected that in London a church with most elegant details could exist for 700 years without exhibiting some trace of the work of Time. A glance at the photographic illustrations we are now publishing will detect places from which the original surface has disappeared. In France such a building would be renewed without any misgiving, but in England there are checks which have to be accepted. The late Sir Gilbert Scott was not considered to be the best type of a conservative architect, but his description of the process he employed in the interior of the abbey will suggest the care with which, in deference to public or professional opinion, he conducted his restoration. In his "Gleanings" he says:—"The surface is so tender that we cannot venture to touch it before the operation is performed. We therefore merely blow away the dust with a pair of bellows with a long flexible tube and nozzle, and inject the solution with a syringe perforated with a number of small holes, so as not to disturb the crumbling surface, which after the operation becomes quite hard and rigid." Work which has to be carried out in that manner must necessarily be costly and slow. The public do not sufficiently appreciate what has been done to overcome the ravages of years, and ascribe the condition of the abbey to neglect on the part of the authorities, their architects and masons. But as we have endeavoured to point out, the falling of parts of the outer surface of the masonry and carving does not date from the last or the present century, and it is to some extent inevitable in a building where the parts are of such refined proportions, and where heaviness was avoided as if it were some heretical evil. There is, however, no need to be alarmed about the condition of the abbey; but it is not unlikely that a much larger expenditure of money on restoration would be desirable, at least for a time.

THE THEATRE FRANÇAIS.

THE destruction by fire of the Théâtre Français, which we mentioned last week, is one of the events which may be said to affect the whole civilised world. No other theatre held a similar position. In it the reign of law was manifested, and as a consequence men of letters, artists, lawyers and, indeed, the cultured members of all professions made it a rule to visit the house in the Rue Richelieu periodically. Many of them were familiar with every line of the pieces represented and with every gesture of the performers, but there was a delight in being able to testify that old traditions continued to be respected. The French are of a more multiplex nature than other people, and although they are inclined to revolt and give way to extravagances in art and literature as well as in politics, yet at the same time they are by turns the most conservative of conservatives, and wish to see accepted theories endure in spite of opposition. On the stage of the Théâtre Français one can always see a conflict between old and new ideas, and that in fact is one of the reasons which give a perennial interest to the "paradoxe sur le comédien," who has to be alternately representative of past and present. Fashion and impulse attract the performers in one direction, but the long chain of tradition restrains them, and in that way an impression is gained which is not possible in any other place. The struggle causes many dissensions, and the departure of M. Coquelin from the house of which he was a main prop was really a result of the differences between the representatives of the répertoire and of modern drama. It requires an apprenticeship for a stranger to be able to appreciate such an "objet de Paris." Many Englishmen consequently only attend performances at the Français because they feel they are bound to take a little interest in the manner of acting. The late Charles Dickens was, for instance, a capital actor and stage-manager, and much of his spare time was spent in theatres, but he never was able to understand the system of the Théâtre Français. He considered the house was a tomb which was only adapted for those for whom the light of other days had faded, and who wished to hold communion with the ghosts of the past. There, he said, a dreary classicality was presented which was enough to freeze one's marrow. What he considered as mechanical actions and stereotyped delivery were to a Parisian more expressive than any which were improvised by so-called natural actors. Professional actors of all countries are generally found to speak respectfully of the French system, although they have to own it would not be tolerated if they were to copy it. It is fortunate, therefore, that although the Théâtre Français is in ruins, yet the Comédie Française need not be suspended for a week. The system is not at the mercy of a conflagration, for wherever a stage can be found on it the sociétaires and pensionnaires can exhibit dramatic art in its most perfect form.

As the theatre is popularly called the House of Molière, it might be supposed he was connected with the building which is now in ruins, or with one which formerly stood on the site. Molière is believed to have died in a house in the Rue Richelieu, and a fountain has been erected as a memorial of him in that street. But during his lifetime his theatre was nowhere to be found on the right side of the river, for its local habitation was in the Quartier Latin. In fact, the royal decree for the constitution of the Comédie was not issued until eight years after Molière's death. When his troupe joined two other troupes the theatre hired for performances was in the Rue Mazarine, or rather in the adjoining Rue Guénégaud, where it remained until 1689. The actors had then to succumb to prejudice. The theologians of the Sorbonne were offered the college known as the Quatre Nations, then standing on the site of the existing Institut, and the gift was accepted on the stipulation that the actors were to be removed from the immediate vicinity. It was then necessary to erect a house in the Rue Ancienne-Comédie, which was a little further off and near to the site of the present Odéon. In the course of eighty years the fame of the performers was so well established, it was generally considered that the theatre was entirely unworthy of them. A part of the Palace of the Tuileries was lent to the company until a suitable building could be erected. It is not generally known that the memorable ovation when the aged Voltaire was smothered under a shower of roses took place in the temporary premises of the Comédie Française within the royal palace. The new theatre which was erected for the company was on the site of the present Odéon, and was erected from plans by Wailly and Peyre. It was opened in 1782, and was known as the Théâtre Français. In 1792 it became the Théâtre de la Nation, and in 1799 it was destroyed by a fire. When M. Jules Claretie, the administrator of the Comédie, accepts the offer to use the Odéon while the new Théâtre Français is in progress, it will seem like a return to a former home of the company. If it were not for the fire, the Comédie Française would still be domiciled in the Quartier Latin.

Fortunately for the performers they were able in their emergency to obtain possession of a theatre which had been erected by Victor Louis in 1787, the Variétés Amusantes. The architect is one of the few who was made the subject of a biography, which forms a most interesting work, by M. Charles Marianneau. Louis was the son of a mason and was born in 1731. Having received instruction from his father, he was able to enter the Royal School of Architecture when he was only sixteen, and under the prescribed age. In his first effort to gain the Prix de Rome he secured a third prize, and two years afterwards he would have easily won the coveted prize, but he was disqualified because he did not comply with the regulations. There was a difference between his finished design and his preliminary sketch. He was, however, awarded a special gold medal which gave him the right to go to Rome for three years. On his return he became acquainted with Favart, the comedian, and designed scenery for him. He is next heard of as architect and director of art to the king of Poland, but he was not happy in Warsaw, and when he came back to France he obtained an abundance of commissions. One was for the theatre at Bordeaux, which must always be prized as initiating a new era in theatre building. If anybody will take the trouble to look up the old "Encyclopédie," the publication of which was one of the causes which led to the French Revolution, they will find in the article on theatres some of the defects explained which were then common. The stage was so limited as to become fatal to any attempt to suggest reality in dramatic works. It was said that innumerable scenes and descriptions were rendered necessary because there was not sufficient depth of the stage to allow the incidents to be gone through. The scene-painting was so close to the eye it lost illusion. The doors of the theatres were said to be like those in prisons, and the mounting of guards at them increased the resemblance. The French theatres were described as being so badly built, so badly placed and so neglected that no one could believe that the Government protected them. The defects which were then denounced were remedied in the new theatre at Bordeaux. It was a grandiose architectural work. Soon afterwards Victor Louis was commissioned to erect a theatre as part of the new works at the Palais Royal, with which he was entrusted by the Duc de Chartres, the notorious Philippe Egalité. The building was completed in 1790, that is nine or ten years before it became a refuge for the Comédie Française. He was also the architect for the Opera House in the Rue Richelieu, which was demolished in 1820 as a punishment of the Parisians because the Duc de Berry was assassinated at the entrance. It occupied the ground now forming the little square which is remarkable for the graceful fountain in the centre designed by Visconti, the architect. Victor Louis died in 1800. Fergusson says his Bordeaux theatre "was then, and is now externally, the very finest edifice of its class to be found in France—it may almost be said in Europe." He objects, however, to the small area which is occupied by the auditorium and stage, but if the historian had been acquainted with the arrangements of French theatres in the eighteenth century he would have known that area was considered rather excessive by the contemporaries of Louis. He made a great stride in developing theatres, and his successors went to still greater lengths.

The revolutionary troubles were not without their effect on the performers. The organisation for a time was broken up. Napoleon, with his marvellous insight for law and method, could not fail to see the advantages of a system which was, or should be, an epitome of good government. He was a great admirer of Talma and of other sociétaires. He made a reality of the English principle by which certain players became "His Majesty's servants." The troupe of the Français were supposed to be always at his disposal, and he not only ordered special performances in his palaces, but he brought the actors to Dresden to play before "un parterre de rois," or a pitful of kings. The decorations of the theatre were altered in order to suit the imperial style. We have a record of the appearance of the interior by Joseph Woods, the architect, who visited Paris, in common with many Englishmen, in the year after Waterloo. He wrote home:—"The Théâtre Français is, you know, the famous theatre which everybody sees, admires and criticises; but I shall tell you nothing about the acting; my business at present is with the architecture, and that is of too solid, too real a style to suit well in a theatre; the storeys of boxes are fitted in between columns of Greek architecture, and the disposition is and looks to be inconvenient."

In 1820 a transformation of the building was directed by Pierre Fontaine. There was much similarity between himself and Victor Louis. Fontaine was the son of a contractor; he competed for the Prix de Rome, and although he did not win the prize yet he obtained similar privileges to those of the student who was successful. But, unlike Louis, he was afraid of the Revolution, and he preferred to emigrate to London and work among us as a decorator and designer. The Théâtre Français as he left it had not the lightness and brilliancy of many modern works. Whether it is possible to have those qualities without affecting the character of the performances is a problem which will require consideration. The old répertoire, which must always be held sacred in the house, may not be able to be accommodated under novel conditions in the minds of spectators. Association counts for much with playgoers, and the Théâtre Français and the Odéon have so long been accepted as the grandest temples of the drama, it will be difficult to reconcile an auditorium which is as gay as paint and gilding can make it with tragedy, when in the form of Mdlle. Dudlay in solemn pall it goes sweeping by, or as M. Mounet Sully rushes on the stage in a whirlwind of passion.

As we have already said, there is always a conflict going on not only behind the scenes of the Comédie Francaise, but among the amateurs in front. Jules Janin, who as an impartial critic was typical of both parties, has shown in his writings how much the two differ. Sometimes they wait for the phantoms of past years, sometimes imagine they can see the embryos of the future. Janin, although he could move with the times and was able to appreciate all improvements which added to the luxury of the life of a theatrical critic, could yet regret the old days when the theatre was illuminated by means of candles, as it is supposed to be in M. Rostand's "Cyrano de Bergerac." In those happy hours it was possible to give imagination the fullest liberty, for the make-up of actresses did not appear so obtrusive as now, when we are all unhappily converted into judges of the various kinds of enamelling. Then such a woman as we find described in the "Neveu de Rameau," although all that was visible of her consisted of plaster, was able to command applause. In our modern scientific age we should require to be able to determine the quantity of the material she had employed. Fortunately M. Guadet, who is the architect for the new Théâtre Français, will be able to gauge the new conditions by seeing the effect of the dramas when performed in the Opera House. If there is no diminution in the approval, and if the actors can command the house as well as they have done in the Rue Richelieu, then it might be wise to make a great difference between the new building and the old. But that conclusion is not likely to be arrived at. The conservative spirit will still assert itself, and just as there are opera-goers who continue to grumble in M. Garnier's gorgeous building because it does not correspond with the old Italian opera in the Rue Marsollier or that in the Rue Lepelletier, we suppose there will be playgoers who will not be contented in the new Théâtre Français if there is any deviation from the arrangements with which they were familiar in the building which they believed to be the Maison de Molière, and which so quickly came to an end a few days since. M. COQUELIN, who has been performing in the principal theatres of Europe and America, maintains that the old house was the most beautiful in the world, the most commodious, the best arranged, and the most perfect in acoustic properties. He recommends that the new building should be an exact copy of the old one. The Minister appears to have taken the same view. The first plans M. GUADET is to submit will practically represent the theatre as it existed before the fire. On the other hand, those who profess to represent progress are sure to believe the fate of the old house, which was prepared for a performance of "Bajazet," was only retribution for adherence to obsolete compositions which are without any relation to life as it is now understood, and they desire a house in which comedies of modern manners would be as apposite as in any theatre on the boulevards.

THE RHIND LECTURES.

THE fifth of the Rhind Lectures on the Ecclesiastical Architecture of Scotland was delivered by Mr. Thomas Ross, in the hall of the National Portrait Gallery, Edinburgh. Dunblane Cathedral might, he said, be considered as a building on which comparatively few alterations had been made by the ravages of war or fire, and being of one age it possessed a unity of style not often found in our large churches. The cathedral was very simple in plan, consisting of an aisleless choir and a nave, with north and south aisles of eight bays, and a lady chapel on the north side of the choir separated by a wall. This was the oldest part (excepting the tower, which belonged to an earlier church), and was probably in use for service while the cathedral was building. The cathedral was remarkable in Scotland for the remains of its woodwork, its stalls being almost the most complete remnants of ecclesiastical furniture left. A rapid survey was taken of the other remains of this kind The collegiate church of Rosslyn had been entirely misunderstood. Fergusson, in the "Handbook of Architecture," assured us that William Lord St. Clair did not employ his own countrymen in erecting this building, and that the whole credit was due to Spaniards, and that was now the general view of the subject. Some writers did not agree with that, notably the late George G. Scott, who in his "History of English Church Architecture" asserted that it was a work of Scottish architecture. It was shown to be on plan identical with the east end of Glasgow Cathedral, and two or three other points of resemblance between the two buildings were referred to and illustrated Taking up the details of Rosslyn with considerable minuteness, it was shown that almost every individual detail could be referred back to some Scottish church or castle. The excessive richness of the building, especially at the east end, with its fretted work and pendant carvings, had easily inclined most critics to the belief in its Spanish origin, but it was in reality a Scottish church in the manner of the fifteenth century It was this period, coinciding in a general way with the reign of the Stuart kings, which formed what might be called the strictly Scottish period, when through the interfusion of ideas from the castles the ecclesiastical architecture of Scotland assumed a national aspect This was found most conspicuously in the collegiate churches, of which there were about forty in number, erected during that period, and also in many parish churches The founding of large monasteries had now almost ceased, and the collegiate churches were taking their place and doing the work which they were unable or were neglecting to do They were formed by the grouping together of a certain number of generally remote parish churches, chaplainries and hospitals, and were erected in towns or central districts The members of a college, presided over by a provost, seldom exceeded ten or twelve, resided in manses, and they were responsible for the maintenance of the religious services of their locality. These churches were generally of small size as compared with the cathedrals and abbeys, and the favourite plan was a cross church without aisles, with a low central or western tower, of which fine examples exist at Dunglass, Crichton, Seton, Whitekirk, St. Monans, Tullibardine, Biggar, Corstorphine, Dysart and other places. The tower of the last mentioned, which might easily be mistaken for a Peel tower, showed how close was the relation between the castellated and ecclesiastical architecture of the country at that period. There was not much variety in the designs of Scottish towers. They generally depended for their effect on the massive masonry, and exhibited few architectural details, the principal exceptions being perhaps the central tower of Haddington and the western towers at Stirling and Dundee. The latter was by far the most dignified erection of the kind in Scotland. Apsidal ends became frequent at this period, but they differed from those of Norman times in never being circular on plan, but always being composed of part of a polygon, and this doubtless for the ease with which large traceried windows could be erected in them, as was observable at Linlithgow and Stirling The apse of the latter was a most stately and dignified termination to the church, and remarkable for the determined effort made to vault it with a tunnel vault like a castle, a method which would hardly have been attempted in a rounded building anywhere but in Scotland.

Several of the larger churches of the later periods were, in the course of the sixth and last lecture, passed under review. The churches of Stirling and Linlithgow had, Mr. Ross said, much in common, both having a western tower and an eastern apse The details of Linlithgow were the richer and better preserved of the two, but its apse lacked the interest of vaulting and the commanding height of the Stirling apse, which made it one of the most imposing eastern terminations in Scotland. The south side of Linlithgow, as seen against the grey walls of the palace, was most beautiful, and its details were full of interest, especially the porch, with its niches and exquisite oriel window, which gave light to a small room over the groined entrance. There was a considerable resemblance in plan between the church of St. John at Perth and the church at Haddington, and both were of about the same dimensions, of some 200 feet by 60, and were each dignified by a central tower. At Perth the crossing beneath the tower was entire, and although greatly degraded in its present condition, it had fine details of great breadth and simplicity. Haddington has been one of the finest parish churches in the country, and its east end and transepts, although now roofless, were constructed in the strictly Gothic manner, with details of the later manner of Scotland. The cathedral of Dunkeld and the abbey of Paisley, he said, bore a considerable resemblance to each other, but while Dunkeld stood in a glorious situation on the banks of the sparkling Tay, Paisley Abbey stood on the foul and muddy Cart, and was in part used as a store for bottling ale and stronger liquors. Founded about 1163, the abbey was burnt by the English in 1307 Its principal restorer, Abbot Thomas Tervas, raised the money in part by selling wine within the monastery, a custom, as they had seen, well kept up. The whole of the west front, which was very majestic, very noble and dignified, represented between its lower and upper parts a period of about 200 years. In the interior there was great complication and confusion in joining the latter with the older work at the west wall. The chapel of St. Mirren on the south side of the nave was a charming example of the architecture of the period. It was not possible to say how much of the monastery buildings remained, but that they were pretty well represented by the present buildings was, he thought, probable. Aberdeen Cathedral was a building entirely of the fifteenth century, unless it might be a small part at the east end of the nave, which was begun in freestone, out of which they got more refinement of detail than from the hard granite of which most of the church was built. Aberdeen was not to be judged from small details, but from its imposing bulk and from the massiveness of its towers and spires. The west gable, with its seven lofty windows, recall the five sisters in the north transept of York. Both had the same effect of great height with absolute simplicity, and of finishing in a horizontal line. The church of St. Giles, Edinburgh, well illustrated the growth of our Mediæval buildings. What it originally was like we could not tell, but within what might be called historic times we could trace its rise from a comparatively simple, low-roofed, three-aisled building to a lofty and many-aisled church. It was the widest of all the Scottish churches, and was remarkable in this respect—that every part of its vast area had been at some period stone vaulted. Its best known feature was the tower, with its crown-like spire. Certain other towers of the same class had all perished, except that at the west end of King's College, Aberdeen, and there was rather a fine tower of the kind which belonged to the old Tolbooth of Glasgow still standing, where everything else was changed, at the corner of High Street and the Trongate. We might almost claim this form of lantern tower as being of Scottish origin, or, at all events, of reaching its fullest development here. Although he had frequently given credit to certain buildings on account of their size, even the largest of our cathedrals and abbeys were small when compared with those of England and of foreign countries, but when we considered that no building had been erected since on such a scale of magnificence and thoroughness as were our great cathedrals with their palaces, and our abbeys with their wide extended courts, we had no reason to be ashamed of what Scotland did during those great ages. Turning to a building of very small size, he regarded the chancel of Lincluden as a perfect specimen of genuine Gothic architecture. There was hardly in all Scotland anything more impressive than this little fragment In conclusion, the lecturer said they had seen that the style of architecture during the period under review was imported in all probability from England, that it was round-arched in its construction, and that the building activity was great, so great in the supply of small parish churches that it sufficed for the wants of the country for many generations. He had tried to show how the round-arched style of the twelfth century grew in the following years into the Gothic style, that on towards the end of the thirteenth century the architectures of England and Scotland were on the same lines, that a breach occurred for about 100 years, and that when the building of churches began again with the advent of the Stuart kings up to the Reformation there was a style of architecture practised in this country peculiar thereto, having distinctly national features. Probably the great abbeys and cathedrals round which all that was best in Scottish public life centred for 400 years were not the least of the great inheritances which had come down to us from the Middle Ages.

THE TEMPLE OF HERA AT ARGOS.

IN his second lecture upon the "Excavations at the Argive Heraeum" at the Royal Institution, Professor Charles Waldstein dealt with a most interesting and at the same time difficult question, the aspect of the work as regards the expansion it gave to our knowledge of the beginnings of Hellenic civilisation. During the last quarter of a century Greek archæology had undergone a complete revolution. Formerly the only sources of information were the few archaic statues which were regarded as dating prior to the Homeric age, roughly assigned to somewhere about 1100 B.C. Dependence upon the Homeric writings had exercised a retarding influence, and it was not until the spade of Schliemann had brought to light the undoubted evidence of a series of historical epochs of culture and civilisation in regular sequence that the study of Greek archæology may be said really to have commenced. The rival schools, first of indigenous Greek civilisation and then of a civilisation imported from the East, had each fought their battle strongly, but the result had not been decisive. Of the existence of a remote civilisation in ancient Greece there could be no doubt after the discoveries at Mycenæ and Tiryns, and to this period may certainly be assigned an antiquity of about B.C. 1450. The comparisons between those discoveries and those at Hissarlik showed that if, as is now generally admitted, the sixth city on that site is the Homeric Troy, Mycenæ and Tiryns belonged to lower levels of culture, and he proposed to show that even more archaic, more primitive stages, giving a greater annexation of the prehistoric hinterland, had resulted from the explorations upon the Argive Heraeum Taking first the argument of topography, the lecturer showed that the Heraeum must have preceded both Mycenæ and Tiryns, as the orientation of the various temples indicated, and by Mr. Penrose's astro-architectural researches showed an age of about B.C. 1830, or more than three centuries more than the usually admitted date for the Mycenæan age. He then proceeded to show how this date was confirmed by the genealogies of the Argive dynasties and also by local tradition. The worship of Hera, the female matriarchal patron of Argos, had preceded all other divinities up to the Dorian age, and remained supreme until the historic age. Professor Waldstein's illustrations from beautiful limelight views of the successive stages of art development were most important. Indeed he demonstrated not only the very remote origin of the Argive linear style of decoration akin to the Attic diplyon vases, but also that this local style was continuous throughout the whole of the history of the Heraeum. Incidentally he mentioned how clearly evident it was that these persistently repeated forms of geometric and linear decoration were derived from basket-plaiting, as in Egypt, in the Ægean ware, or from textile fragments. In conclusion he said that the results of the exploration in the Heraeum had carried Greek civilisation to a period of about 2000 B C, and had shown that it was the product of Hellenic soil. The next lecture will deal with the discoveries as relating to the best periods of Classic art.

A CLAY LIBRARY.

IT is now fifty-six years since Sir Henry Layard startled the world by his discovery of the ruins of ancient Nineveh. The science of Assyriology has to-day, says a correspondent of the *Scotsman*, become a recognised and important branch of Oriental research, and the British Museum the centre to which all students turn for material. Throughout Europe and America professorships of the once totally unknown science have been established, and the literature of the libraries of Nineveh and the ancient cities of Chaldea forms part of the theological curriculum in many universities. In a private letter of Sir Henry Layard's, written in 1849, after his discovery of the palace of Assurbanipal (the Sardanapalus of classic and Oriental legend), he says:—"We have discovered a large quantity of small clay tablets, beautifully written in cuneiform character, which seem to have formed part of the record-chamber or the library of the Assyrian kings." During the period which has elapsed since these words were written many excavators have worked upon the site, and the rescued literary fragments have been carefully recovered and stored in our National Museum. The labours of Rawlinson, Kassam, Smith and Budge upon the ruins of Nineveh have rescued a large portion, but by no means all, of the treasures of this great literary storehouse. Some conception of its importance may be estimated by the fact that there are now held within the British Museum more than 23,000 of these inscribed tablets which once formed the library of the palace of the Assyrian monarchs. Such an immense accumulation of material naturally took a long time to arrange. Students, who were each year increasing in number, were anxious to know the contents of this great "find," and to this end it became necessary to prepare a catalogue. The work was by no means an easy one. But after more than twelve years' labour the task has been completed. Some idea of the gigantic nature of this undertaking may be estimated from the fact that the catalogue occupies five large volumes, consisting in all of 2,400 pages, which contain descriptive entries of between 24,000 and 25,000 tablets, with a full index and analysis. The first volume appeared in 1889, and the last has just been issued by the trustees, the total cost of the production being between 4,000*l.* and 5,000*l.* This laborious work was entrusted to Dr. Carl Bezold, of the University of Heidelberg, under the direction of Sir Edward Maunde Thompson, the Director of the British Museum, and Dr. Wallis Budge, the Keeper of the Department of Oriental Antiquities.

The history of this great depository of learning is an interesting one. The library at Nineveh did not rival in antiquity far older collections of the southern motherland of Chaldea, from which its literature was derived. It is evident that we must divide the library into two portions, as two distinct establishments were combined in this part of the palace; the record chamber, which contained diplomatic and private documents as well as the historical annals of the Assyrian kings, and another portion, which contained the literary and scientific works. The former section was probably founded by some of the earlier Assyrian kings; but there does not seem to have been any great collection until Sargon, the conqueror of Samaria, whose reign commenced in 722 B.C. The subsequent monarchs of this dynasty, which ended in 625, also stored here their records; but it was not until the reign of Esarhaddon (B.C. 681-668) that the library was properly organised It was manifestly a copy of the great library of the Temple of Nebo (the god of learning) at Bomppa, to whom it was dedicated. Commenced by this monarch the work was completed by his son Assurbanipal. The origin of the library is clearly indicated. From the beginning of the dynasty, and throughout the whole of the time until the fall of the Assyrian kingdom there was an increasing struggle between the northern and southern empires. Assyria, then ruling Babylonia, represented the physical predominance, while all intellectual and literary greatness was centred in the priest-cities of Babylonia This constant fighting for "home rule" on the part of the older monarchy had taxed the energies of both Sargon and Sennacherib, who had attempted by numerous cruel wars to crush the spirit of the Babylonian people. On the accession of Esarhaddon a new policy was introduced, that of conciliation. Not only did the king divide his time between the two capitals, restore and lavishly endow the Babylonian temples, but he also turned his attention to the patronage of literature. To counteract the influence of the Babylonian priesthood, who were the tutors of the youth of Assyria, he decided to form a library and university at Nineveh, and the most important classical and educational works in the great colleges of Babylon, Borsippa, Kutha and Nippur were carefully copied and stored in the Temple of Nebo, which adjoined the record chamber of Nineveh. It is impossible in the space of this notice to deal with all the interesting sections of this library. From the record chambers themselves come the great historical inscriptions which restore to us the accounts of the campaigns which made Assyria the mistress of Western Asia. These often show a distinct indication of having been severely "censored." But they are fortunately supplemented by a valuable series of many hundreds of letters, despatches and official minutes. The diplomatic papers of the Assyrian kings are extremely valuable. They show that politics were highly developed in that age, and that a secret service department was well organised, which kept the authorities at Nineveh well informed of all movements in surrounding countries. Among the documents of special interest are a number of despatches written in the language of Anzan or Elam and some unknown tongues, which shows that interpreters must have been attached to the Government staff.

In the literary section, the epics, of which there were several, come first. Among these are the story of Gilgames or Nimrod, arranged in twelve tablets, including the celebrated Deluge Legend, the epic of the Creation, the stories of Etana (who ascended to heaven on an eagle), and numerous legends of the goddess Ishtar A curious series of stories are those of the Plague-god, which are no doubt poetical accounts of great epidemics. Medicine is represented by a very large number of inscriptions, and is, of course, much interwoven with magic. The science of divination is also rich in works, dreams especially being the subject of elaborate speculation. In religious literature, prayers, hymns, psalms (particularly the beautiful penitential psalms), are well represented. Astronomy and astrology occupied, as we know, much attention. We must not forget to mention a valuable series, forming a sort of encyclopædia, which deals with botany, mineralogy and zoology, and many of the classifications are extremely interesting. A section which has been of the greatest use to students is that relating to linguistic and educational works, for it is from these very tablets which nearly twenty-five centuries ago instructed the youth of Assyria in the learning and wisdom of Chaldea, that modern scholars have learned the most ancient of languages. The spelling-books, grammars, dictionaries, the "thesauroi," written on imperishable clay, are the lesson-books of scholars to-day. This great work, which reflects so much credit upon the trustees of the British Museum, is not by any means the first catalogue that has been made Among the tablets were found several which were lists or catalogues of whole sections of the library which had been drawn up by the Assyrian scribes, as well as numerous labels which had been placed along with groups of tablets. In conclusion, we can say in truth, in reply to the sneers which have been uttered by continental writers, that while we have the finest collection of Assyrian writings in the world, and justly lay claim to be the fatherland of Assyriology, that we publish so little that when the authorities of our great National Museum do undertake to make public an account of their treasures it is by such complete and monumental works as these. A word of high praise must be given to the excellence of the printing of so difficult a work, and of the photographic reproductions which form the appendix.

ARCHITECTS' BENEVOLENT SOCIETY.

THE annual general meeting of this Society was held at the Royal Institute of British Architects on Wednesday afternoon. Mr. J. Macvicar Anderson, in the unavoidable absence of the president (Mr. W. M. Emerson), presided.

The Chairman moved the adoption of the report.

In presenting their fiftieth annual report the Council of the Architects' Benevolent Society have the pleasure to congratulate members of the Society on the attainment of its jubilee, as it was founded in 1850. From small beginnings the Society has steadily developed to its present size and efficiency; during its existence many thousands of pounds have been collected and distributed amongst deserving applicants. Through the agency of the Society distress has been alleviated, domestic calamities averted, temporary difficulties, due to ill-health or other causes, overcome, and old age relieved of the burden of poverty. It has taken a place amongst philanthropic institutions, and provided for the architectural profession an opportunity for benevolent effort on behalf of its indigent members, which could not have been so effectively provided by other means. It is a matter of regret that this opportunity has not been more generally appreciated than has been the case hitherto. The desire expressed at the first annual meeting of the Society and repeated frequently since, that every architect in active practice should become a contributor, is still very far from realisation.

The proposal to celebrate the fiftieth anniversary by a festival dinner, announced in the last issue of the Red Book, has been duly considered during the year; but owing to the many calls upon private means in consequence of the war in South Africa, it was decided to postpone the celebration to a more convenient opportunity.

The amount received in subscriptions during the year on which your Council have to report was 469*l.* 3*s.*, which shows a small diminution on the amount received the year before. Eleven members failed to pay their current subscriptions, four withdrew from the Society, while ten new members have joined the list of subscribers.

The Council have gratefully to acknowledge the receipt of the following donations:—Mr. J. Macvicar Anderson, 18*l.* 10*s.*; Colonel R. W. Edis, 10*l.* 10*s.*; Mr. F. Wallen, 5*l.* 5*s.*; Mr. G. Inskipp, 5*l.* 5*s.*; Mr. J. T. Christopher, 5*l.* 5*s*; Mr. E. Tewson (per Mr Roumieu), 5*l.* 5*s.*; Mr. Wm Emerson, 5*l.*; Mr. J. M. Brydon, 5*l.*; and many smaller amounts.

It is with great regret the Council have to record the death of two of the most distinguished members of the Society, the Duke of Westminster and Sir Arthur W. Blomfield, both generous subscribers. Sir Arthur Blomfield was a member of the Council at the time of his decease.

Six meetings of the Council have been held during the year, the average attendance at each meeting being eight.

The sum of 145*l.* has been paid to the Society's six pensioners, and 552*l.* 4*s.* distributed amongst forty applicants for relief.

During the year, two of the pensions becoming vacant through death, the places were filled by eligible candidates.

The following gentlemen, being the five senior members, retire by rotation from the Council:—Mr. H. L. Florence, Mr. J. T. Christopher, Mr. Sydney Smirke, Mr. W. Grellier and Mr. E. W. Mountford. Further vacancies have occurred through the resignation of Colonel Edis and the death of Sir Arthur Blomfield. To fill these vacancies the Council have the pleasure to nominate Mr. Arthur Cates, Mr. E. A. Gruning, Mr. G. T. Hine, Mr. H. C Boyes, Mr. Zeph. King, Mr. G. Inskipp and Mr. J. T Wimperis.

The balance-sheet and income account for the year ended December 31, 1899, audited by Mr. Henry Dawson and Mr. Zeph. King, we e submitted.

The Council wish to express the indebtedness of the Society to the Royal Institute of British Architects for office and other accommodation, and to the secretary (Mr Locke) and to his assistants for their helpfulness and courtesy in any matter connected with the Society.

On the motion of Mr. H. L. Florence, seconded by Mr. J. T. Christopher, the Council for the ensuing year of office were elected as follows:—President, the President of the R I.B.A., Mr. R St. A. Roumieu, Mr. W. Woodward, Mr E. B. I'Anson, Mr E. H. Martineau, Mr. E. T. Hall, Mr. T. M. Rickman, Mr. R. A. Briggs, Mr. Arthur Cates, Mr. E. A. Gruning, Mr. G. T. Hine, Mr Zeph. King, Mr. H. C. Boyes, Mr. G. Inskipp and Mr. J T. Wimperis.

Mr. W. Hilton Nash and Mr. Percivall Currey were re-elected respectively as hon treasurer and hon secretary, and Mr. J. T. Christopher and Mr. Percy Hunter were elected auditors.

A cordial vote of thanks to the chairman terminated the proceedings.

GERMAN ARCHÆOLOGICAL INSTITUTE IN ATHENS.

ON Monday, in the presence of the Crown Prince and Princess, Prince Nicholas, the Prime Minister, and members of the Cabinet and Diplomatic Corps, a large and distinguished assembly of Greeks and foreigners connected with the German Archæological Institute celebrated, says the *Times* correspondent, the twenty-fifth anniversary of its foundation. The King was unable to be present owing to indisposition After a speech from Professor Dörpfeld, who reviewed the past history of the Institute, describing its various fields of activity in the prosecution of research, in the issue of scientific works, the organisation of expeditions, and the instruction of students, congratulatory addresses were delivered by M. Kavadias, general inspector of antiquities, on the part of the Greek Archæological Society, and M. Homolle, director of the French School, on behalf of various foreign institutes in Athens. In the course of the proceedings it was announced that the Emperor William had bestowed the Order of the Red Eagle upon several Greek archæologists. The Royal party were subsequently entertained at luncheon by Count Plessen, the German Minister.

During the past quarter of a century the German Institute in Athens has rendered immense services to the cause of archæological science It has conducted researches at Menidi, Tegea, Corinth, Sunium, Thebes, Mitylene, Paros, Athens and Megara, besides participating in important excavations at Olympia, Troy, Tiryns, Orchomenus and elsewhere. Every year, under the guidance of Professor Dörpfeld, journeys for the purpose of exploration and instruction have been undertaken to various parts of Greece and Asia Minor, in which students of all nations have been allowed to participate. Frequent lectures have also been delivered at the Athenian Museum and Institute. It is to be regretted that owing to lack of funds the British School is unable to work on similar lines to the French and German sister institutions. Owing to their activity Athens is once more becoming a great international seat of learning.

An Interesting archæological discovery has just been made in the course of the extensive alterations which are now being conducted on the site of Carrington House, in Whitehall, whereon the new War Office buildings are shortly to be erected. The foundations of the old mansion are (the *Daily News* explains) being removed, and about 5 or 6 feet below the surface the remains of several clearly defined and well-built roads have been laid bare, the direction of which throws an interesting light upon the topography of this part of Whitehall two or three centuries ago. Some human remains were discovered.

NOTES AND COMMENTS.

The temporary building which is now in progress for this year's Salon will cost about 25,000*l.*, a large sum to be paid by the Société des Artistes Français, which has no other revenue than the francs received for admission to the exhibition. It may be anticipated that the expense of the building will be increased before completion. The Society could not however neglect the erection of the building, whatever might be the cost. It was supposed by some wiseacres that few artists would care to exhibit this year, for it was not to be expected that the visitors would take any notice of the Salon after gazing at the best pictures which modern artists could reproduce. But experience has proved the contrary. The number of pictures which have been submitted this year far exceeds the average of past years, and there is no doubt many artists will have to undergo disappointment, as there will be no room for their works. Although the pictures and drawings have been submitted all the salles are not yet finished. It is expected that all will be ready for the visit of the President on April 5, the day preceding the varnishing.

Macaulay has described Niebuhr as "a man who would have been the first writer of his time if his talent for communicating truths had borne any proportion to his talent in investigating them." That is high praise for one historian to bestow upon another. But it would have been confirmed by other English writers of history, such as Thirlwall and Arnold. Niebuhr undertook the most difficult task of investigating the earliest period of the history of Rome. And his efforts to discriminate between fact and fiction obtained commendation from many scholars. By birth he was a Dane, but the greater part of his life was spent in Prussia, where he filled the offices of Historiographer Royal and Professor of History. In order that he might pursue his Roman investigations with greater facility he was appointed ambassador to the Pope. The last years of his life were spent in Bonn, where he died in 1831. After his death Frederick William IV., who had been one of his pupils, expended 23,000 thalers on a monument for Niebuhr. It has now become dilapidated, and it is feared will fall to pieces. An effort was made to compel some of the representatives of the historian to repair the monument, but they declined all responsibility. An appeal to the Government was also unsuccessful. The authorities of Bonn now offer to give 1,000 marks towards the restoration of the structure if the Government will pay the remainder of the cost. Niebuhr's theory has of late years shared the common fate of most theories, and students of history have adopted different interpretations of the early annals and legends of Rome. But there can be no doubt that he deserved all the reputation he gained, and it would not be creditable to Germany if a memorial of so renowned a scholar should be allowed to become a ruin.

Promoters of schemes for waterworks in Parliament are likely to find some difficulty in replacing the late Mr. George James Symons as a witness. Thomas Hawkesley, who secured a very large share of commissions for waterworks, collected his own data about rainfall, and his big manuscript books were enough to strike terror into the souls of his opponents. But few engineers possessed the patience which is necessary if information of the kind is to be secured. Mr. Symons was therefore an invaluable resource. He was able to induce a great many people to keep rain gauges without any other reward than the conviction that they were aiding in obtaining information that might help to elucidate the most uncertain of all sciences, meteorology. Mr. Symons's "British Rainfall" for 1898 contained records from 2,545 stations in England, 237 in Wales, 436 in Scotland and 186 in Ireland, or in all 3,404 stations. Mr. Symons, from the time he was eighteen, devoted himself to meteorology. He served under the Registrar-General and in the meteorological department of the Board of Trade.

A paper was recently read by Dr. Brushfield on "Norman Tympana," and especially those found in Derbyshire, before the British Archæological Association. The majority of them represent human figures or animals, real or fabulous; sometimes there are Scripture scenes. A difference is to be observed between those over the south and those over the north doors. The north door was sometimes known as the devil's door, and the subjects sculptured were suggestive of future torture. The tympanum over the south door was of an altogether different character. In Derbyshire ordinary animals, such as boar and wolf, more often appear than those which are fabulous. The practice in other places differs from that followed in Derbyshire. In many Norman churches mythological animals are most common. Thus in Cormac's Chapel on the Rock of Cashel, in Ireland, there is a representation of a centaur shooting with an arrow or spear an incongruous beast with a rectangular mouth, that might have been intended to suggest a letter-box if correspondents were common in those days. It is not improbable those strange animals were symbolical, but the key to their meaning no longer exists.

We lately referred to an essay on the origin of Cape architecture by Mr. Herbert Baker, architect, of Capetown. He erected the residence of Mr. Cecil Rhodes, known as the Groote Schuur, or Great Barn, and which is on the site of a storage barn of the Dutch Company. Mr. Baker must have carried out his commission very satisfactorily, for he has been selected to design the memorial at Kimberley which Mr. Cecil Rhodes intends to erect in order to preserve a record of the names of those who fell during the siege by the Boer forces. Although his house is in the Dutch style, the memorial will be of a more antique type, for Mr. Baker, it is said, is about to visit Egypt, Rome and Athens to seek for a type which will be suggestive. The defence of Kimberley was sustained by Englishmen, and it would be more appropriate to allow the memorial of it to possess some of the modern characteristics of English art rather than those of antiquity. Reproductions of ancient examples of memorials or monuments are rarely successful, and we are surprised to find so thorough an Englishman as Mr. Rhodes going back to a remote age for inspiration. He can hold his own as an empire maker with any of the ancient worthies, and he should have admitted that one of his countrymen would be able to execute a monument in English style.

ILLUSTRATIONS.

WESTMINSTER ABBEY: CHAPEL OF ST. JOHN BAPTIST. VIEW FROM STEPS OF HENRY VII.'S CHAPEL, SHOWING PORCH. BRONZE GATES, HENRY VII.'S CHAPEL.

The chapel of St. John the Baptist in Westminster Abbey contains some remarkable monuments, but it also exemplifies the havoc which was perpetrated in order to find room for those excrescences. Lord Hunston's monument was considered by Fuller to be the most magnificent in the Abbey, and it certainly is unmatched for height, but to find a space for it an altar was displaced without the least scruple. The tomb of Hugh and Mary de Bohun, the children of Humphrey de Bohun and the grandchildren of Edward I., once stood in the Confessor's chapel, and was displaced for a similar purpose. The tomb of the Earl of Exeter was built for himself and his two wives, but the second, who survived him, refused to be buried on the left side, and consequently she lies at Windsor. The chapel of St. John the Baptist has been sometimes described as St. Erasmus's, but it is supposed that only the porch is entitled to that name. Some canopy-work which is over the doorway originally belonged to a chantry in the old lady chapel which was demolished to make way for the chapel of Henry VII. Abbot Fascet's monument is interesting, as the canopy remains, while the canopies were removed from the tombs of Abbot Colchester and Bishop O'Ruthtall. Colonel Popham, whose tomb is also to be seen, was one of the commanders at sea under the Commonwealth; his monument was ordered to be defaced. Charles II., however, allowed the monument to remain. The slab bearing the inscription was turned inwards.

LONDON AND PROVINCIAL BANK: NEWINGTON GREEN. HACKNEY BRANCH.

HOUSE AT EAST PUTNEY: STAIRCASE HALL. DRAWING-ROOM

THE CALIFORNIAN COMPETITION.

WE have from time to time recorded the various stages of the International Competition for the Phœbe Hearst Architectural Plan for the University of California. The rustees have now issued the report on the final competition, which, as already announced, resulted in the victory of M E. Bénard, of Paris. The report is as follows :—

To the Trustees of the Phœbe A. Hearst Architectural Plan for the University of California.

In submitting their report on the final competition for the Phœbe A. Hearst Architectural Plan of the University of California, the members of the jury desire to express their admiration of the excellent designs submitted, and to congratulate the trustees on the satisfactory results obtained.

Owing to the recent illness of Mr. R. Norman Shaw he was unable to serve, and was replaced on his suggestion, and by general consent, by Mr. John Belcher of London, as the English representative on the jury.

The four architects of the jury arrived in San Francisco on the morning of August 30, 1899, where they were met by the other member of the jury, Regent J. B. Reinstein, of the University of California.

On the day of their arrival the jury went to Berkeley and made a preliminary inspection of the site, noting the general disposition of the grounds, their boundaries and surroundings. Later in the day the jury met and duly organised. Mr. J. L. Pascal was elected president; Dr. Paul Wallot was elected vice-president; Mr John Belcher was elected recording secretary Mr. Paul B. Tuzo was then named as general secretary to the jury

On the morning of August 31 the jury met in the Ferry Building, in San Francisco, in which, by courtesy of the Harbour Commissioners of San Francisco, the drawings had been arranged. Following the methods employed at Antwerp, each drawing had been carefully covered and sealed. At the direction of the jury the seals on the coverings were then broken and the drawings uncovered, but the seals over the devices were left unbroken. The jurors at once proceeded to satisfy themselves whether or not the competitors had complied with the conditions of the programme, after which they devoted themselves to a detailed examination of the drawings.

The jurors continued their deliberations on September 1 and 2 at the Ferry Buildings On Monday, the 4th, they again visited the site, and by the aid of photographs of the drawings tested the adaptability of each to the situation and contour of the grounds; on this and the following days they restudied the drawings and compared their respective merits, the final decision being reached on September 7.

Before commenting upon the drawings which were successful, the jury beg to state that, as anticipated, the general quality of the work submitted by the eleven, chosen from the ninety-eight who submitted drawings at Antwerp, is of a high character, and gives evidence that great thought and study have been expended by the authors in the presentation of their respective schemes. The liberty to extend the site beyond the boundaries originally stipulated has not generally been abused, and the freedom allowed in dealing with the whole problem, while increasing the difficulties of the competitors, has resulted in a considerable variety in the solution of the problem. The designs submitted differ in many ways. The disposition and character of the dormitories have evidently been regarded from distinctly opposite points of view, some giving them great prominence, others treating them as a feature outside the University proper. Some designs preserve the brooks, others divert or alter them. Some make a much greater use of the hillside than others, and there has been considerable variety shown in the seclection of the axis of the composition

In arriving at their decision of the respective position and merit of the several designs, the jury have had all these points in mind, and have considered the following as of special importance :—

1 That the buildings should generally represent a University rather than a mere architectural composition.

2 That there should be a convenient grouping of the educational sections without undue crowding or prevention of possible future extension

3 That the purpose of the several departments should be clearly defined in the design.

4 That the architectural forms should be adapted to the configuration of the grounds and preservation of their natural beauties

The jury decided to limit themselves to five rewarded designs

Referring to the design placed first, the foregoing points have been admirably dealt with by its author. He has produced a plan of great general beauty, and at no time was there any divergence of opinion amongst the jurors as to its superiority

It combines good grouping with a great variety in the treatment of the individual buildings.

All has been arranged within the prescribed limits. The woods and brooks have been very generally preserved, while the grove in the south-west corner has been so brought into the composition as to form a prolongation of "Fine Arts Square," from which its beauty can be appreciated.

From the centre of Fine Arts Square a main avenue leads to the principal University buildings, where the author takes advantage of the plateau on the south to form his open athletic field, thus again obtaining a grand open space He bounds that side of the space with his gymnasium, under the shade of which are arranged the seats for the spectators of the outdoor games.

In regard to the upper part of the plan some modification and simplification of arrangement may be necessary, as some of the buildings placed there should be nearer their related departments in the University, and a greater unity of scale preserved

The elevations are excellent in scale, character and nicety of proportion, and the drawings are beautifully rendered.

In the design placed second, the author has produced an orderly and reasonable plan, and has respected the nature of the site. He has preserved the woods and trees and placed the athletic grounds in a good position. He has given great prominence to the dormitories as a part of the University, but they are unfortunately indicated with a monotony quite unnecessary to the scheme, while the gardens to these follow the water-course in their rear, and are well arranged for quiet resort and study. The University buildings appear crowded, and the plateau in front of them rather small in comparison with the avenue leading up to it.

The whole design is, however, very artistic, reasonable in scale, and suitable for University buildings.

The third design departs materially from the methods adopted by the other competitors, and disposes of the whole of the buildings in the form of an amphitheatre, whose axis is parallel to the line passing between Oakland and Berkeley The design is most artistic in conception, but cannot be considered as the best solution of the problem. The dormitories are well planned and placed.

The author has shown his scheme on a larger area, whereas the same disposition of the buildings within the smaller or prescribed limits, as suggested in his alternate plan, is more practicable.

In the design placed fourth there is a general reasonableness, but the author has not taken advantage of the possibilities of his scheme. The disposition of his buildings on a long avenue facing the Golden Gate is somewhat monotonous He has preserved the woods and placed his athletic fields in a good position. The dormitories as placed radiating on the hillside appear better on the plan than they would in execution. The group shown in detail, though fine in many respects, is not the jury's idea of a University building.

In the fifth design the author has kept the woods and brooks, and also maintained ample means of access from both directions. The athletic ground placed on a high plateau gives a fine prospect, but is probably not in the best position, or as accessible to the public as it should be. Its situation would moreover involve an immense expenditure for retaining walls, grades, &c. The repetition of the blocks of buildings designed for different uses in the large central quadrangle, located as they are on different planes, is not to be commended, nor is such an arrangement adaptable to extension. The jury consider the general design to be rather an interesting study than a practicable plan for a University.

In apportioning the amount to be awarded to each competitor, the jury have taken into consideration the great superiority of the design placed first over all others submitted, and have decided upon the following division :—

First prize	$10,000
Second prize	4,000
Third prize	3,000
Fourth prize	2,000
Fifth prize	1,000

After the foregoing portion of the report had been adopted, the jury proceeded to open the letters and remove the seals covering the mottoes, and found that the authors of the rewarded designs are as follows :—

First.—Monsieur E. Bénard, 29 Boulevard Péreire, Paris.

Second—Messrs. Howells, Stokes & Hornbostel, 46 Cedar Street, New York.

Third.—Messrs. D. Despradelle & Stephen Codman, 6 Beacon Street, Boston, Mass.

Fourth—Messrs. Howard & Cauldwell, 10 and 12 East Twenty-third Street, New York.

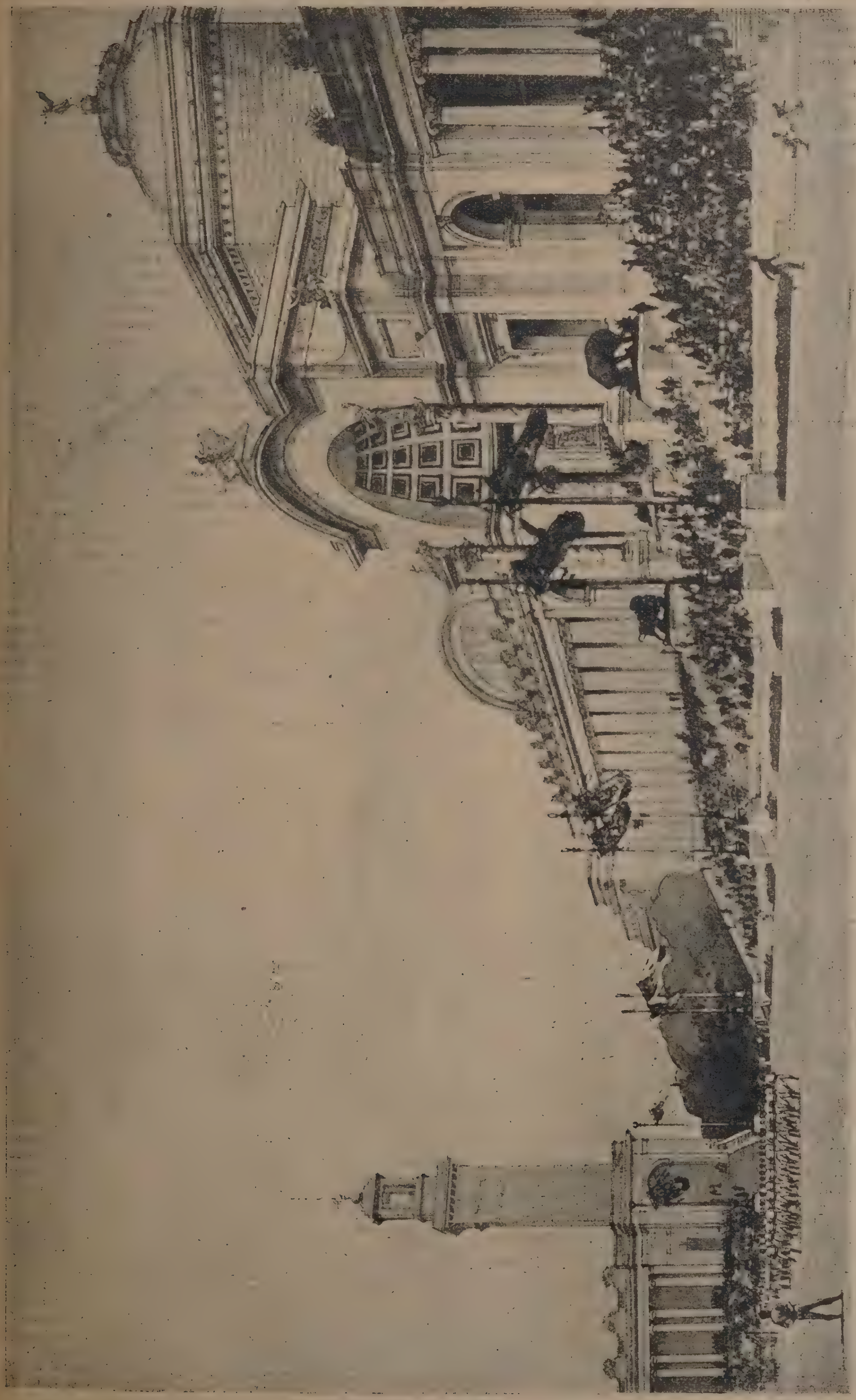
Fifth—Messrs. Lord, Hewlett & Hull, 16 East Twenty-third Street, New York.

The jury, after an examination of the references and cerificates submitted by M. Bénard, declare that this architect offers the guarantees which justify his being entrusted with the execution of the work.

It is a matter of congratulation to the members of the jury that they are able to record the fact of their practical unanimity in all the decisions arrived at, and in concluding their report they desire to record their appreciation of the breadth of view and the generosity of Mrs. Hearst in instituting the competition, and of the care and intelligence with which it has been carried out from beginning to end, which makes it a model for similar competitions in the future, and, finally, their sense of the honour conferred upon them by their share in it.

J. L. Pascal. Walter Cook.
John Belcher. J. B. Reinstein.
Paul Wallot.

San Francisco: September 7, 1899.



PERSPECTIVE VIEW OF STADIUM. FIRST PRIZE—*Monsieur E. Bénard.*

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last at 9 Conduit Street, W., Mr. G. H. Fellowes Prynne, president, in the chair.

The following were elected members:—Messrs. R. E. Hemingway, J. A. Jones, A. G R. Mackenzie and F. Nicholls.

On the motion of the Hon. Secretary, a unanimous vote of thanks was passed to Mr. W. E. Riley for his hospitality on the occasion of the Association's visit to the Millbank Estate Building on February 24.

The President announced the commencement of the following classes:—Colour Decoration, March 14, lecturer Mr. A. H. Hart; Quantity Surveying, March 21, lecturer Mr. H. J. Leaning; Mensuration, Land Surveying, Levelling, April 4, lecturer Prof. H. Adams.

Mr. C. E. Bateman read the following paper on

Small Houses.

The subject of small houses that has been set for me to speak upon this evening, in order that I might draw your criticism and raise a discussion, is perhaps the most difficult that could be given to me, because everyone here is acquainted with the conditions, and as English architects you know all about domestic architecture. It is therefore with very great diffidence that I venture to submit my short and limited experiences for your consideration, but I do so in the hope that you will be so kind as to give expression to any exception which you may take to any of my remarks, so that the discussion may be of greater value than the paper, which I am sure will be the case.

My remarks are supposed to apply to houses between the limits of, say, 80*l.* and 2,500*l.*, which down in the country is the most usual class we have to deal with.

The following is the accommodation of an actual example of the lower limit.

Lower Limit.—Porch and lobby, two sitting-rooms, 17 feet by 13 feet, pantry, larder, wine cupboard, kitchen, scullery, coals, ashes, water-closet, five bedrooms—13 feet 6 inches by 13 feet 6 inches, 12 feet by 13 feet, 13 feet by 10 feet 6 inches, 13 feet 6 inches by 9 feet 3 inches, and 12 feet by 10 feet 6 inches; bath, linen cupboard.

Ground floor area . .	944	feet at 15*s.* 10½*d.*	= £750
First ,, . .	734		
	1,678	at 8*s.* 8¼*d.*	= 747
Cube . . .	26,901	,, 6¾*d.*	= 756
Cost £750, at 5¼ per cent. . .			£39 7 6
Ground rent 2*s.* a yard . .			5 10 0
			£44 17 6

Rent obtained, £45.

Higher Limit.—For the higher limit I also give from an actual example the following accommodation:—Entrance, cloak-recess, hall, 14 feet by 14 feet; drawing-room, 18 feet by 14 feet; bay and ingle, 4 feet 6 inches by 8 feet; dining-room, 21 feet by 14 feet 6 inches; service door billiard-room, 22 feet by 17 feet; bay and recesses, lavatory, pantry, 14 feet by 7 feet, wine cupboard under stairs, servants' sitting-room, 14 feet by 12 feet, working kitchen, 14 feet by 14 feet, sink, back stairs, trade entrance, larder, servants' yard and covered way to coals, ashes, knives, boots and water-closet. Bedrooms over hall, dining-room and drawing-room, two over billiard-room, dressing-room over entrance, two rooms over kitchen, box-room over larder, bath-room and water-closet.

Ground floor area—House . . .	2,317 sq. feet			
Outbuildings . .	173 ,,			
Stables . . .	836 ,,			
	3,326 ,,	at 14*s.*	= £2,324	
Upper floor . .	2,263 ,,			
	5,589 ,,	at 8*s.* 4*d.*	= £2,326	
Cube—House . . .	61,851 feet	at 7½*d.*	= £1,935	
Outbuildings . .	2,249	,, 6*d.*	= 60	
Stables . . .	13,537	,, 6*d.*	= 336	
				£2,331
Total . .	77,637			

Contract, 2,325*l.*

Ground rent at 2*s.* a yard, 50*l.*

As a general rule, the smaller the house the better, and the more certain the interest on outlay. The character and surroundings of the land should govern the character of the house, and it requires restraint not to put too good a house on the land. It requires the genius of the speculating builder to obtain more than 6 per cent interest on the outlay, and this is difficult to get. The question of outlay must receive our consideration, because a man cannot live at a higher rental than a certain proportion of his income, which some put down at one-tenth. One also must also take into consideration the variations in fashion and depreciation upon a change of tenancy or ownership.

Economy of necessity is of the utmost importance, oftentimes with advantage, as more houses are spoilt by having too much money badly spent upon them than too little; but fortunately for us, a client does not always look to his house to be one of his most saleable investments, but nevertheless it should be one of his available assets.

Birmingham, like many large towns of recent growth, has little or no available land near its centre for residences, as it is more valuable for business purposes and workmen's dwellings; the distance, therefore, has to be bridged over by rail, tramway or omnibus. This may seem an unimportant matter, but when a man is engaged in some business which leaves him free for a couple of hours in the middle of the day he often takes the opportunity of going home for luncheon; it is therefore important that the house be so disposed that the cooking and service arrangements may be such that he can return to his business in a fairly good temper after his midday meal. In Birmingham there is very little or no freehold land; it is practically all in estates which only grant leases. This, perhaps, militates in some degree against substantial construction, but a certain control is exercised which improves the class of building if a competent surveyor is in charge, and he examines the plans submitted for approval.

The effect of the leasehold system on building is a very vexed question, and scarcely comes within our province this evening, although it has a general bearing; but a client will generally build rather a stronger and better house upon freehold land.

Points which force themselves upon us when laying down a plan are the approach to the land, the aspect, the views obtainable and the levels, the most important perhaps being the aspect Every ray of sunshine should be made available. No house can be considered satisfactory which cannot warm itself and its occupants with the sun as it passes, or appears to pass, from east to west; and too much stress cannot be laid upon this fundamental and important consideration It is easy enough to shut out too much sun in summer, but it is impossible to obtain the sunshine if the rooms are placed on the wrong side of the house. When advising upon the selection of a site, keep this well in mind; for should the sun, the views and the fall in the land be all in one direction, half our troubles are at an end. The most difficult plan to arrange is where the approach and the front door of necessity come on the south-east, for the reason that the dining-room, being of course placed south-east so as to have sunshine for breakfast and luncheon, the front door has to be placed southward or eastward of it. If eastward, the entrance has to be crossed by the service from the kitchen; and if southward, servants have a long distance to go round the dining-room to admit visitors.

I think you will agree with me that a western aspect is bad for a dining-room, because the evening meal for more than half the year is taken by lamplight, and no direct sunshine is upon the room for breakfast, and very little for luncheon

While upon the question of approach, I should advise that porches placed in an internal angle, with the doorway on the diagonal, should be avoided, as they are very difficult to drive up to Porches are not easy to treat, as, when small and of the usual type, they seem to be stuck on and to have the character of the dog kennel or furniture van. When large enough and two storeys high, they certainly look better, but are expensive, and I am inclined to think the recessed porch is cheaper, while it gives scale to a small house and forms in the hall a convenient bay-window recess. The space over the top of the door may form a useful cupboard for rugs, tennis rackets, &c.

After having considered the possibilities of the site, with its aspects and approach, the next point will be to determine the number of storeys required to contain the accommodation In the country basement kitchens are not advisable, as no servants can be kept where the kitchens are not on the level. In fact, avoid cellars as much as possible, as they entail considerable outlay for a provision which is really but little used, while for the smaller class of house under consideration sufficient space for wine or beer may generally be found under the staircase by going down three or four steps to the bottom of the footings.

Having disposed of the cellars the ground plan will now receive our attention, but we must not get too much wedded to a particular arrangement without carefully considering the bedroom floor and the roof plan. This latter is so all-important, not only from the nature of our climate and on account of the capacity of attics for containing bedrooms, but also from the effect it produces in external appearance, so that the roof in a great measure governs the plan itself, and unless it seems to ride comfortably on the walls and with its spans intersecting easily and simply into one another, the general harmony and homogeneous character of the whole block will be spoilt.

I have found a space of 17 feet will give useful attics by placing the joists underneath the wall-plate, and by carrying them through and spiking them to the feet of the rafters a good tie is obtained. Stud up to the rafters with the intersection

4 feet from the floor and place the purlins above the ceiling joists at the intersection with the rafters, and you will have a strong, rigid and economical roof.

Trussed purlins are very useful as forming the sides of the attics, and will often be found more convenient than principals, especially in wide spans, as the sill piece can be used as the bearer for the attic joists, and the wall plate be kept to 7 feet from the first floor. I generally use 4½-inch by 3-inch rafters, placed 16 inches centre to centre, with 11-inch by 4-inch purlins, and plates 9 inches or 11 inches wide. This latter is a wise precaution, especially in 11-inch hollow walls, as support is thus obtained from the inner as well as the outer 4½ inches of the brickwork

Boarding the roofs gives an additional strength, and although it raises the cost it makes the attics much warmer, and if you have slept in attics all your life, as I have done, you will realise this advantage If boarding cannot be adopted Willesden paper is a useful substitute, and should be placed on the top of the rafters with an additional intermediate lath, the whole torched up solid, as the tiles are put on to keep the fine driving snow from getting in and to keep out the draught.

As regards roof coverings it will be agreed that stone slates from Northamptonshire and the Cotswold Hills are without doubt the best, not only from their strength and lasting qualities, but also for their appearance They require to be carefully laid in the first instance, as they are not easily repaired, except by men from the district where they are obtained; in fact, men used to handle the Colleyweston slates cannot lay those from the Cotswolds, and *vice versâ*. The Colleyweston slates are pointed, and the Cotswolds are not. The cost comes out to about 20s. to 30s. a square more than tiles, which mounts up; but they are worth a sacrifice to obtain An example may be seen at Mr Peto's house in Harrington Gardens, and of course every one is familiar with them who knows Oxford. If stone ridges cannot be used, buff-coloured tile ridges look the best Tiles make a roof warmer than slates, and where sound old ones can be obtained they look all the better for being weathered Most of our modern tiles won't change colour, or if they do, go black all of a piece, which is as bad The smooth surface, due to the machine pressing used in their manufacture, accounts somewhat for this; but they are also very much thinner than the old ones, causing the roof lines to look hard for the roofs. Half-round ridge tiles are preferable perhaps to those with ornamental tops.

Fortunately, green slates are more easily obtainable than formerly, and the cost of those from Llandilo, in South Wales, is not so very great I have tried the experiment of laying them in narrow courses, the long way of the slates going in the same direction as the laths; in this way they come more in the proportion of tiles and with a pleasing effect Never use a red ridge with green slates; a blue ridge makes a much softer finish against the sky There has been of late years a crusade against slates, and the purple-coloured Bangors are certainly uncompromising with red bricks, but the blue-grey upon whitewashed brickwork (rough cast) are not so objectionable. If hips are introduced, make the ends steeper by lengthening the ridge 3 or 4 feet, so as to correct the dropping effect where seen on the diagonal This necessitates altering the gauge of the laths, but it is not a difficult matter.

Before leaving the roofs a word might be said about lead, but owing to its cost it has to be used very sparingly. In a small cheap house parapets and lead gutters are out of the question, and one often has to use cement flashings to chimneys where tiles are employed. Cement, however, will not always adhere to the smooth pressed tiles without they are chipped. As lead-work is expensive one must not have too many dormers, and it is not easy to design a house without dormers or gutters; in fact, it is difficult, but it is a useful exercise, as these are two of the points where snow and wet may most easily get in.

Zinc is a poor substitute for lead, and its life is very short, especially when exposed to the effects of atmosphere containing chemical acids, though in the country, and if of strong gauge, it may be used with care

Running the roofs over the walls of gables always seems the most practical and simple way of keeping the wall dry, while it saves flashing, but there is a peculiar charm about the coped gable, which marks the verticality of the gable in contrast to the horizontal line of the eaves. When a soft stone like Bath is used, the coping should be laid on a damp-course of slates and run out instead of having kneelers, as the water running down is interrupted here, soaks through the stone and appears in the room When this method is adopted, a flat back section about 4 inches thick with a good overhang is the best.

Hard bricks on edge with a tile creasing will keep out the wet; in this case kneelers must be arranged, or else the bricks slip off unless clip irons are used, in which case they are apt to look as if they would tumble off.

As to the projection of eaves, unless the soffits are plastered they look thin if projecting more than 9 inches to the back of the spout. Gardeners do not like a large projection, as the wall creepers get little or no rain upon them. This goes to show that eaves keep the walls dry. When arranging the eaves and spouting look out for opening casements; it is trying to find that the windows won't open more than 6 inches or 9 inches. Half-round eaves-spouts are as good as any. There is a good deal of difference of opinion as to whether chimneys on inside or on the outside walls make the rooms the most warm. Those in favour of inside stacks say that all the heat is thus conserved, while others maintain that an outside wall is cold unless it has a chimney in it. A safe way is to put some inside and some out, this being the arrangement that looks the best; and it is advisable, for appearance, to have as few large and high chimneys as possible, as the external facing is increased by multiplying the stacks, while they always look shorter and smaller in the work than on the drawings. Chimneys should be looked upon as miniature towers, not stalks. The roof and chimney design, with the general grouping, will often make or mar a house

The term bungalow has had a good run for some time, but it is misleading; a house with simply a large and spreading roof is not of necessity a bungalow, and I doubt if it is an economical treatment, while it savours somewhat of affectation.

There is not much to be learnt from old houses about the planning of the bedroom floor, as in these the majority of the rooms lead out of one another and there are no original sanitary arrangements These are points which would be considered serious defects in a modern house. One can, however, learn a great deal from them in the treatment of their plaster ceilings to be seen not only in the best bedrooms but also in the attics. Chastleton, in Oxfordshire, and Daneway, in Gloucestershire, may be given as good examples. Iron casements are still expensive, and if many are inserted the price runs up; two opening casements and often only one are quite sufficient in a window; two hollows run round the edge of wooden casements will keep the wet from driving through in exposed positions. It is not often that one can avoid lath and plaster partitions, as the number of bedrooms cannot be obtained in a two-storey house by simply carrying up the walls. They are, however, a great nuisance, as they invariably both crack from the shrinkage of the timber and also more especially when carrying any portion of the roof This has been recognised in one estate near Birmingham, where the surveyor declines to pass plans where they are shown. If open timber ceilings are adopted for the ground-floor rooms, it is very difficult to introduce rolled iron joists to carry walls The use of expanded metal lathing would, I think, avoid some of the cracking, but the intersection of the partition with the wall is the point where the greatest difficulty occurs; 17 feet by 13 feet is a very workable size for a bedroom, while 10 feet wide is about the minimum for comfort

As to internal plumbing, it is hopeless to say anything about sanitary fittings, as they are changing every day, but a combined iron bath and lavatory, known as the Brampton, is a useful arrangement. For water-closets, I prefer the lead traps to the basins, as there is less fear of breakage at the joint with the soil pipe. In order to avoid flooding from the freezing of pipes, expose and fix them all in wooden grounds on the top of the plaster. This keeps them clear of the brickwork, while a gas jet or lamp in the water-closet will keep the flushing-tank from freezing. Round circulating tanks seem to work the best, and are the strongest. If these can be placed in a cupboard off the passage instead of in the bath-room, the linen is not affected by the steam from the bath, and can be got out when the bath is being used, while the passage may be to some extent warmed It is, I presume, unnecessary to point out the great disadvantage of ever putting the bath-room and water-closet over a living-room, not only because of a possible collapse, but also because of the nuisance arising from the noise. Provision should be made for stopping the supply with stop-taps, say near the scullery-sink, if that is where the main comes in, as then the scullery tap will empty the pipes A stop valve fixed just behind the ball valve will facilitate taking off for repairs in the water-closet. A scouring joint to empty the kitchen back boilers in case of repairs must not be overlooked.

When arranging the staircase, remember elderly people will have to use it Upon the recommendation of the coroner, no staircase is passed in Birmingham without a hand or wall rail. It is also well to bear in mind that sometimes coffins have to be carried down the stairs, and that it is unseemly to have carpenters in the house to break up the stairs or for the coffin to be let down through a window. The position of the staircase frequently dominates the arrangement of a plan, especially when we have attics. For this reason a T-shaped plan is often convenient, as the stairs will then land in the centre of the attics, avoiding passages, which are almost impossible to arrange, owing to the want of head room under the rafters, and particularly under the valleys. If stairs are carried up between walls, 3 feet 9 inches is about a minimum width. These walls can be wrought framed up with 7 inches by 2½ inches (timber and plaster between with good effect) Thick cords run through ring brackets are more agreeable than wall rails. For open stairs and landings saw-cut balusters and panels of ¾-inch square bars in patterns are a pleasant change and inexpensive if not over elaborate. Many handrails are spoilt by being over moulded, which makes them uncomfortable to the touch. The nosing to the steps is best flat-rounded on the top side so as to avoid cutting the stair-carpet; 3½-inch or 4-inch square newels, carried up to the ceiling, help to support trimmers and beams, and appear to enclose the stairs and give you more for the money than turned oak newels. To place the staircase in the middle of the plan saves passages, as the bedrooms can be entered from all round the landing, but for light and ventilation a staircase against an outside wall is better; borrowed light through doors and screens is a poor substitute for direct window light. The starting of the stairs is often better out of sight of the front door, and if planned to lead out of a lobby instead of directly from the hall the latter can be made a more comfortable sitting-room. Owing to the number of doors in a hall there is of necessity a certain amount of draught. The sitting-hall and ingle-nook are often applied to houses which are really not big enough to receive them; hence they are terribly cramped, or else other points have been so sacrificed to obtain them that the balance is on the wrong side.

A sitting-hall gives a certain spaciousness on entering, but is not much use unless it is, say, 12 feet by 15 feet, with the staircase shut off from it. Ingle-nooks want to be at least 4 feet 6 inches deep from the face of the opening to the chimney-breast, so as to admit of two persons sitting at the side, and they should be 9 feet or 10 feet wide, to save scorching their clothes. I am not certain if fixed seats are so good as saddle-back chairs. We have all, I suppose, met with the difficulty of getting dog grates to draw properly, and I shall be glad to hear if any one has found a remedy for their smoking. It is a good plan to narrow the opening to the flue from back to front, bringing it over and taking it back again higher up, the opening to the flue being 6 inches or 9 inches from back to front. Very sharp twists are bad, but gradual and easy bends are a help; lining the flues with 10-inch fireclay pipes is a good practice, but expensive. I am inclined to think that the position of doors and windows and the direction of the draughts has a good deal to do with causing smoky chimneys. One may generally rely on most of the flues going badly for the first twelve months, until they get dry, when pots may be added as necessary, and it will be well to keep these of varying heights, which sometimes prevents the smoke from one flue being drawn down an unused flue adjoining it. Nine-inch square flues are too small, as there must be taken into account the clogging of the soot, which hardens and will not brush out. I much prefer stone and marble chimney-pieces, because they come then into the contract and are put in as the work goes up, avoiding the stock pattern which we are compelled so often to adopt. I think a red stone if it is of a bright colour looks best. A good builder will make the wood chimney-pieces just as well as anybody else, and although it saves trouble to go to a specialist, the stock-pattern effect is nearly always obvious.

In arranging the lighting of the rooms allow for a discount for curtains and blinds. If mullion windows are adopted one light extra should be provided to meet this loss. In spacing out 1 foot 6 inches to 1 foot 8 inches centre to centre works well for 4½-inch by 3-inch wood and for light stone mullions, while 1 foot 10 inches is the limit for 10-inch by 5-inch moulded stone mullions; 6 feet 6 inches and 4 feet 6 inches is a good section for a square stone mullion. When Bath is used and carefully sawn it requires little labour upon it; at any rate, do not permit the drag tool or comb to be used. Heads and sills are best not less than three courses of bricks deep, except for very small windows. Avoid getting the jamb stones of only two dimensions where toothing into the brickwork; vary their length as much as possible to avoid a mechanical appearance.

Sash windows are perhaps the most draught-proof and water-tight, particularly as they are not usually filled with lead lights, but they govern to a large extent the character of the elevation and are not always admissible. It is also a question if the slight inlet of air through lead lights—that is, supposing them to be of good quality—is not an advantage in ventilation, especially where the rooms are low.

Thick leads and two or at most three panes of glass in width to the light are better than very small squares. Put in plenty of saddle-bars, as cleaning the windows cracks the joints and lets in the wet; ½-inch bars are not even. Bay windows to be any use want to be big enough. Two canted angles at the ends are better than only one, and a strip up into the bay gives an elevation to the seat which is agreeable when looking through the window or down into the room.

Low, wide windows perhaps light a room most agreeably, and prevent the sun's rays from penetrating too far into the room in the summer when the sun is higher than in the winter.

In house-work joinery is an important trade, but owing to the small stock of timber kept in country places it is difficult to get it good. The mechanical process of drying now in vogue is a poor exchange for the old-time method, and for this reason larger panels have to be avoided. Except under special circumstances, pitch pine is liable to split, and if used is better unstained. Square-framed doors are really quite good enough. When the panels are thick, in order to prevent weakening the styles have the edges of the panels double rebated. Owing to the smallness of our rooms it is a great advantage to arrange them so that they can be thrown together by using folding doors. If you set the hall in the middle and can throw the room into it on each side you obtain quite a big and interesting room for special occasions. Sliding doors for this purpose are a nuisance, and folding them back like shutters is as good a way as any, but look out for the projection of mouldings, skirtings and lock furniture, and use projecting butts. These doors want to be higher than the ordinary doors, which will do 6 feet 6 inches or 6 feet 3 inches by 3 feet or 3 feet 3 inches. Ledged doors in two heights or stable doors are nice for the entrance, as the upper portion can remain open in warm weather, and the porch is a pleasant place to sit in. Ploughed and tongued floors are necessary on the ground floor for warmth. These, of course, must be ventilated underneath, and iron sliding gratings are best, because of being under control. Open timber ceilings look very nice, but they are dreadfully noisy; if you do use them, put two thicknesses of floor boards and two thicknesses of felt, with inch strips between to make a cavity. For a room 17 feet by 13 feet, two beams, 9 inches by 7 inches, laid flat, will be sufficient, with 5½-inch by 3-inch joists, also flat, stumped into the beams at 16-inch centres. If you lay the joists on the top of the beams and plaster the underside, put a small wood mould at the intersection of the plaster and the beam, to cover the subsequent crack which will arise from shrinkage.

A point that comes under our notice on the job is the way in which a 4½-inch wall gets cut about by the ends of the joists of the floors, leading to a settlement and probable collapse some day. A course of bricks laid on edge across the wall makes a corbel table and gets rid of the difficulty. Proper fittings in the pantry, larder, kitchen and scullery add a good deal of comfort to a house. Pantry dressers are usually made 1 foot 6 inches wide and 2 feet at the wash-up portion, and 2 feet 10 inches high from floor, with cupboards having two shelves and drawers about 5 inches or 6 inches deep. The shelves over run 7 inches, 9 inches and 11 inches, spaced about 11 inches apart, the top shelf running all round over the top of door and window. Glazed sliding-doors in front of the shelves will keep the china and glass clean, especially that which is not in continual use, while brackets of angle-iron to support the shelves will be found less clumsy than in wood. They will, moreover, not be in the way when the china, &c., is moved along the shelf. To economise space the pantry may very well be a passage-room between kitchens and hall; in fact, if it is increased in size and has a fireplace it may also be used as a servants' sitting-room.

Many people prefer the scullery to be the working kitchen, and the kitchen proper to become the servants' sitting-room; this is a useful arrangement in a small as well as in a larger house, as in the smaller the same room can be used for breakfast—an advantage where only one servant is kept, and the sitting-rooms are not dusted until later on in the morning. The rule that says a kitchen should be as big as the dining-room applies to a large as well as a small house, because the larger the dining-room the more people there may be to cook for. One cannot do very much in the way of outside premises, so luxuriously provided for in old houses. Coals, ashes, &c., knives and boots, with perhaps a shed, is all we can expect, but even these should be in a separate yard, not approached by the tradesmen's entrance, and must be also cut off from the stable yard, where there is one.

Buff-coloured tiles, perhaps, look the cleanest for kitchen floors and larders, but are somewhat softer than the red. Ruabon wire-cut 6-inch by 3-inch tiles last and look well for entrance passages and floors of ingle-nooks, but for the latter I prefer stone paving, the same raised up 3 inches or 4 inches above the floor of the room. In the Cotswold Hills the ordinary stone from the hard bed is used for paving, and is of a very pleasing colour. Wood-block floors are too expensive to use, except, perhaps, in a billiard-room, where the table gets a good foundation from the concrete bed.

Panelling and fitments are almost out of the question for houses of this type, not to mention ornamental plastering. Necessities for comfort must not be sacrificed for them, as they can be inserted afterwards.

As to plastering, it is better to carry it round the jambs up to the windows instead of using wood linings and mouldings, which only get covered up with curtains, but as such jambs are liable to injury from staybars, &c., they are better if finished in cement. No mouldings are required. Modelled plaster ought to be kept soft and somewhat indistinct, and quite different from carved stone or wood. For panelling, one must study the old examples to get into the way of treating it properly. Both for the small and large panel types, you will find how necessary it is to keep the panels exactly the same width, while a gradual and almost imperceptible diminishing in height is desirable as you rise up the wall in the small panel work.

As to decoration I cannot say very much. Unless you are very fond of colour and know how to treat it you will be landed into difficulties, while the selection of wall-papers for clients is conducive to more ructions than anything else. For my own part the whitewash brush is, I think, a handy instrument, and white paint is easily mixed.

Concerning the external appearance we must again turn to our grammar of old examples. It does not follow that because something looks well in an old building it will look well if introduced straight away into a new one—the glamour of age will be wanting, the scale will probably be different and the surroundings of totally another character; but the close and measured study of old work is without doubt an essential part of our education, guiding our minds to value certain ranges of proportion and teaching us the value of surface.

I suppose at one time or another everyone does a half-timber house and wishes they had not after a later inspection. There will be a day of reckoning hereafter when the dilapidations are taken on these top coats of deal boards. It is a great thing in the exterior work to introduce as little as possible that will require to be renewed and regularly painted. Five pounds a year for the jobbing builder does not seem much, but represents interest on 100*l.*; this would probably pay the difference in cost of oak or stone over deal, or cover a good deal of that care in workmanship that is so wanting at the present day. Houses built of brick entirely look better in the work than on the drawings, especially in a neighbourhood where good bricks are obtainable; while if the bricks are bad whitewash them, either with or without rough cast. This particular treatment is being taken up a good deal now, I suppose as a reaction from the scarlet fever we have been suffering from for some time past. Rough cast certainly has a texture and surface more nearly approaching stonework than anything else, but unfortunately it has a habit of peeling off and wants doing well. I do not think it is possible to lay down any rules for designing a satisfactory elevation. It is very much a question of setting out and of the proportion of the solids to the voids, an outcome of the surface and colour of the materials employed, and of the grouping of the blocks of the plan and their roofing. One may take it that the solids diminish and the voids increase in the work, and you need not put in what you can possibly leave out.

I am afraid you will think this is a very dry and uninteresting discourse on construction, but architecture is nothing but construction, with the addition of a refining and beautifying element obtained by continued and enthusiastic study, developing a certain natural aptitude.

I hope you will therefore forgive me if I have said nothing fresh or very helpful about designing small houses, and will not hesitate to criticise and fill up the gaps that have unavoidably to be left out in so brief a treatment of such a large subject.

The Hon. Secretary read the following communication from Mr. Ernest Newton:—Mr. Bateman strikes a true note when insisting upon the recognition of the practical side of house building. The proper solution of these problems takes us a long way on the road to the production of a good house, but it is one note only. All these practical requirements may be satisfied, and yet the result may be an uninteresting building devoid of character and quality. Practical problems may be solved in many ways, all right in varying degrees, but to solve them completely I think two senses must be at work, one definite and teachable, the other the property of the individual. It is not enough to give a practical and obvious solution only; every material we use in building has an expression proper to itself alone. It is not easy to define this, but we feel intuitively that stone and wood must be treated differently, one kind of stone differently from another. Lead, copper, iron, all have their fields and their limitations; deal must be treated in one way, oak in another, and so on all through the whole range of materials. The right selection and proper expressive use of materials play an important part in fixing the general character of the building, and influence that character very considerably. Then, besides all this sub-expression, the building must have a note of its own—grave, gay, dignified, homely, austere, whatever it is that we are aiming to express. Locality often, to some extent, determines this character. The conditions may be unvaried. Three sitting rooms, a hall, six or seven bedrooms, cupboards, conveniences of all sorts, sanitation, ventilation, all the things so wisely and rightly insisted upon; but if we take house building exclusively from the practical point of view we may get a "dwelling," but not a home. Half timber has led us all astray at one time or another, but its inherent falseness for modern use is fortunately killing it. Solidity and plenty of wall space are always right; not only do we want substantial walls, but substantial doors and windows, and strong solid floors. Flimsiness in a house destroys the self-respect of its possessor, and in course of time would be an excuse for almost any crime he may commit. The simple roof is undoubtedly the form most suitable to our climate, and the most restful to the eye. Good tiles ought not to be difficult to get; thick, strong, deep red hand-made tiles, however, are scarcely to be found. Tile-makers are too much in love with a thing like a piece of boiler plate painted pink. I believe that if architects were more persistent the demand would create the supply. As it is with tiles, so it is with almost all other materials. The manufacturers' ideal is a hard, highly finished article. Finish rightly applied has its own beauty and its own place, but its application should not be universal. In conclusion, I should like to say that what I have endeavoured to make clear is that a house that is the outcome of an honest attempt to grapple with all the practical difficulties is always respectable, and that the ideal house must have all these qualities, plus a flavour and distinction of its own. The draughtsman's house, like a piece of petrified sketch-book, is a thing without soul or body, and is always ridiculous, uninteresting and impossible.

Mr. A. B. Mitchell, who proposed a vote of thanks, said no reference had been made in the paper to the use of steel in construction, whereas for solidity and cheapness it could hardly be equalled. It seemed impossible to build such houses in the South at so low a figure as Mr Bateman had mentioned.

Mr. Beresford Pite seconded the vote, supported by Messrs. H. W. Pratt, C. H. Brodie, A. S. Tayler, A. T. Bolton, L. C. Riddett, W. E. Hewitt, H. J. Leaning, E. Greenop and the President.

Mr. Bateman briefly replied.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

THE monthly meeting of the Society of Antiquaries of Scotland was held in the library at the Museum, Queen Street, Edinburgh, on Monday evening, the Hon John Abercromby in the chair. The first paper was an account of the excavation of the Roman station at Camelon, near Falkirk—Dr. Christison, the secretary, noticing the general history of the place; Mr Mungo Buchanan, Falkirk, describing the plans, showing the ancient form and disposition of the ramparts and ditches, and the included buildings; and Dr. Joseph Anderson describing the collections of pottery, ornaments of bronze, implements of iron, and objects of stone and bone found during the progress of the excavations. Referring to the circumstances which led the Society to undertake the work, Dr. Christison stated that, having been informed by Mr. J. R. MacLuckie, one of the fellows resident at Falkirk, that the southern half of the Roman site at Camelon had been feued for the erection of two foundries, and that the cutting of a railway siding on the ground had been begun, the Council resolved to adopt Camelon as the next field of operations in the systematic excavation of Roman sites which they had been carrying on for the last five years. Permission was readily granted for the northern half of the site by Mr. Forbes of Callendar, the proprietor, and for the southern half by the feuars, Mr. John Wilkie and Messrs. R. & A. Main, and Mr. Fleming, the farming tenant, with equal readiness afforded every facility for the work, which was placed in charge of Mr. Alexander Mackie, under the directions of the committee, who were largely indebted to the practical experience of one of their number, Mr. Thomas Ross, architect. They also had the invaluable co-operation of Mr. MacLukie and Mr. Mungo Buchanan, Falkirk, a trained surveyor, who gave his whole leisure to the planning of the details disclosed from week to week. These proved to be more obscure and difficult to trace out than in the case of any of the previous excavated sites. Its position, nearly a mile in front of the Antonine vallum, was like that of Birrens and Ardoch, and the supposed Roman Lyne, being on a flat which sinks abruptly towards the course of the Carron on the northern and part of the eastern sides, sloping more gradually on the other sides. The defensive ramparts and trenches were drawn round an oblong rectangular space in the angle formed by the junction of a small stream with the Carron. This space was divided into two nearly square enclosures of about 600 by 500 feet, within which the buildings were placed in the northern half in approximately parallel blocks, and in the southern half with more irregularity; but both squares appeared to have been divided by wide streets running north and south and east and west, and intersecting at the centres. The space beyond the northmost square seemed also to have been occupied with buildings and partially protected by an extension of the fortifications, so that the whole plan was one of considerable extent and variety of feature, the details of which could only be made out by careful and prolonged investigation. None of the early accounts of the place were very precise. Buchanan in the end of the sixteenth century mentioned it as a Roman fortress having the appearance of a small city, of which the walls and ditches and remains of the streets were then traceable, though fast disappearing by their stones being taken for building houses by the owners of the land. He also spoke of inscriptions having been found, but there was no record of these, and the present excavations had yielded but few fragments of carved or inscribed stones. Among these was a small altar uninscribed, a stone erected by the twentieth legion and a fragment of the sandalled foot of a statue in sandstone. The other relics were very numerous, and furnished interesting evidence of the manner in which the Roman colonists supplied themselves with the luxuries and comforts to which they had been accustomed. Their buildings in some cases had glazed windows, and were usually provided with hypocausts for heating the rooms in winter. Their tables were plentifully supplied with imported Samian pottery, profusely ornamented with embossed designs of classic taste, the potters' stamps showing their derivation from more than fifty different makers. The many varieties of household ware manufactured in the potteries of the central and southern districts of Roman Britain were not less plentiful, and vessels of glass of various forms and colours were not uncommon. They were also well supplied with the larger and coarser ware of the kitchen and the storeroom, such as mortaria and jars of various sizes and shapes for wine, water and oil. A single clay lamp which was found testified to the use of light in the long dark winter evenings. Their personal ornaments, such as fibulæ, brooches and belt-clasps, were mostly of bronze, but often beautifully enamelled, and beads and bangles of glass and jet were also common. The iron relics consisted mostly of spear heads of various sizes, axes, mattocks, hasps and nails. A few bronze and silver coins were found, on which only the names of the Emperors Nero, Domitian and Trajan could be deciphered; and these, with the stone erected by the twentieth legion, pointed to the occupation of the station in the middle of the second century.

In the paper which followed, the Bishop of Bristol gave an account of a remarkable cup-marked boulder at Stresa, on the Lago Maggiore. The special interest of this example of archaic sculpturing lay in the fact that it was named the Saj di Gorone, or Stone of the Heel, and the markings on it were accounted for by a legend, which he had also found associated with a cup-marked slab near Zmutt, in the Zermatt valley, which represented them as having been worn in the boulder by the rotation of the heels of the Pagan orators turning this way and that when addressing the people. This popular or traditional association of these sculpturings with heel-marks had not been noticed in Britain.

In the last paper the Rev. Kirkwood Hewat, Prestwick, described and exhibited photographs of the lower part of the shaft and one of the arms of a fine cross sculptured with interlacing patterns that had been recently found on the farm of Cairn, in the parish of New Cumnock, Ayrshire, of which he exhibited photographs.

CONWAY CASTLE.

THE Mayor of Conway's statement that the arch which fell a week ago in the old castle, over which he has jurisdiction as the Queen's constable, was not a portion of the masonry which has endured for so many centuries, but was a "restored" arch, has given considerable satisfaction to lovers of the interesting ruin who reside in the town and its vicinity. I have just visited the castle, says a correspondent of the *Manchester Guardian*, have seen the débris and have noted the position it occupied. The Mayor's statement is supported by the appearance of the stones and the mortar which had been used in their binding. Some of the stones seem to be modern and not weather-worn. They were probably put in to fill up gaps when the arch was rebuilt. The mortar is composed for the most part of a powdery lime that whitens the fingers like chalk. I picked up occasional lumps of it and found that it could be easily crushed, while the original mortar with which the fabric was constructed is almost vitreous in its hardness and is clear white and semi-translucent, like oyster shell. Information was not readily obtainable as to when the restoration of the arch took place The arch was one of two remaining in the great banqueting-hall. This fine apartment stands on the south side of the main courtyard, whence it is entered by a single doorway. It is some 40 yards long by 10 wide, and, when the roof existed, was lighted through nine windows, four overlooking the Conway valley and the Gyffin valley, four opening into the courtyard, and the ninth, at the east end, being a fine Gothic window, the remains of the enfoliation of which may still be seen. The smaller window embrasures are provided with stone seats of an elongated horseshoe form. The appearance of these at once gives a human interest to the place and sets the imagination to work peopling the great hall and weaving touching little histories of the lives of the historic dead. Eight four-centred arches supported the roof of the hall, the existing one being that next but one to the east window, and that which has just collapsed being next but one to the other extremity of the apartment. Decay of the fabric set in when the lead was stripped from the timbering in 1665, and that the walls and the remaining arch have existed exposed to the weather for nearly two and a half centuries is a good proof of the durability of the masonry. The remaining arch has been pointed and repaired recently, and cemented at the top to exclude the water. Formerly the walls and arches were thickly covered with ivy, which was removed in the time of the mayoralty of Mr. C. J. Wallace. Its roots had penetrated through the interstices between the stones. Every rootlet formed a conduit for the rain, and so assisted Father Time in the work of disintegration. Plenty of ivy roots, we can now see, remained in the masonry of the fallen arch, and although they were, of course, dead, they still afforded a means for the rain to enter. Possibly this accounts to some extent for the extremely friable nature of the mortar. The upper part of the arch was not coated with cement, as is the other one, and it is probable that the persistent wet weather this winter, with the frost of a few weeks back, completed the mischief begun by the ivy-roots. However, there is no reason why the arch should not be again "restored," if it is really necessary, and this time done in a substantial and lasting manner. The Corporation are at work putting some props of red sandstone to support a dangerous part of the King's Tower, and one could well believe that the revenue from the castle is great enough to cover the cost of any such repairs.

BRISTOL SOCIETY OF ARCHITECTS.

THE ordinary monthly meeting of this Society was held at the Fine Arts Academy, Queen's Road, Clifton, on Monday evening, Mr. W. L. Bernard, president, in the chair. Mr. Peter Addie, F.S.I, the city valuer, read a paper on "The Removal of Insanitary Areas and the Management of Improvement Schemes under the Housing of the Working-Classes Act," which dealt very fully with the various provisions of the Act, and the many difficulties encountered in the adoption and carrying into effect of these provisions. Mr. Addie's experience at Birmingham and elsewhere goes to show that it is a very difficult problem to provide working-class dwellings at moderate rental without some aid from the rates, especially in city areas, and if the workers are housed in the suburbs the extra cost of rail or tram communication must be considered On the conclusion of the paper, a vote of thanks was proposed by Mr. Frank Wills and seconded by Mr. J. H La Trobe, both gentlemen testifying to the very interesting nature of the paper, and to the ability and courtesy of the city valuer. Councillor Gilmore Barnett then discussed the paper at some length, showing how vitally this question affected the community and some of the difficulties with which the problem bristles. Councillors W. W. Hughes and H F. Cotterell also spoke and supported the vote of thanks. After Mr. Addie had acknowledged the vote of thanks a very spirited discussion took place amongst the members, and the view was generally held that the cost of building increased the difficulty of a satisfactory solution, more especially as the sound contract work of the municipality could not be done at the same low rate as inferior speculative work. The hon. secretary, in his remarks pleaded for some alleviation of the inartistic and depressing appearance of these dwellings, even at a slight addition to the rates, and the influence of cleanliness and order on the morals of the workers by a certain amount of supervision was freely admitted.

GENERAL.

The Late Mr. Thomas Ismay has bequeathed Mr. Briton Rivière's picture "Daniel in the Lions' Den" to the Liverpool Corporation.

Mr. Robert Walker, who was secretary of the Royal Glasgow Fine Arts Institute since its opening in 1880, died on Friday last. He was much esteemed by artists, and his services were of great advantage to the Institute.

Ten Blocks of dwellings are to be erected at Millbank for the London County Council. The tender of Messrs. Spencer, Santo & Co. amounts to 110,439*l*. They are to accommodate 2,448 persons in tenements of one room each, 278 of two rooms each, and 222 of three rooms each

M. Paul Meurice has presented to the Bibliothèque Nationale, Paris, about a thousand engravings, portraits and drawings relating to Victor Hugo.

The Queen has graciously consented to lend six miniatures to the exhibition of the Royal Amateur Art Society, which will be opened on the 20th inst. All the proceeds will be devoted to philanthropic purposes.

Mr. T. J. Moss-Flower, C.E, F.G.S., 2 Victoria Mansions, London, S.W., and 28 Baldwin Street, Bristol, having been appointed umpire in connection with the Rye Harbour sewerage competition, has submitted his report, placing the schemes in order of merit.

An Order has been made by the Irish Vice-Chancellor for the administration of the estate of the late John L. Robinson, architect, who was one of the Dublin town councillors. The personal estate is valued at about 8,600*l*.

The Royal Birmingham Society of Artists have re-elected Sir W. B. Richmond, R A., as their president.

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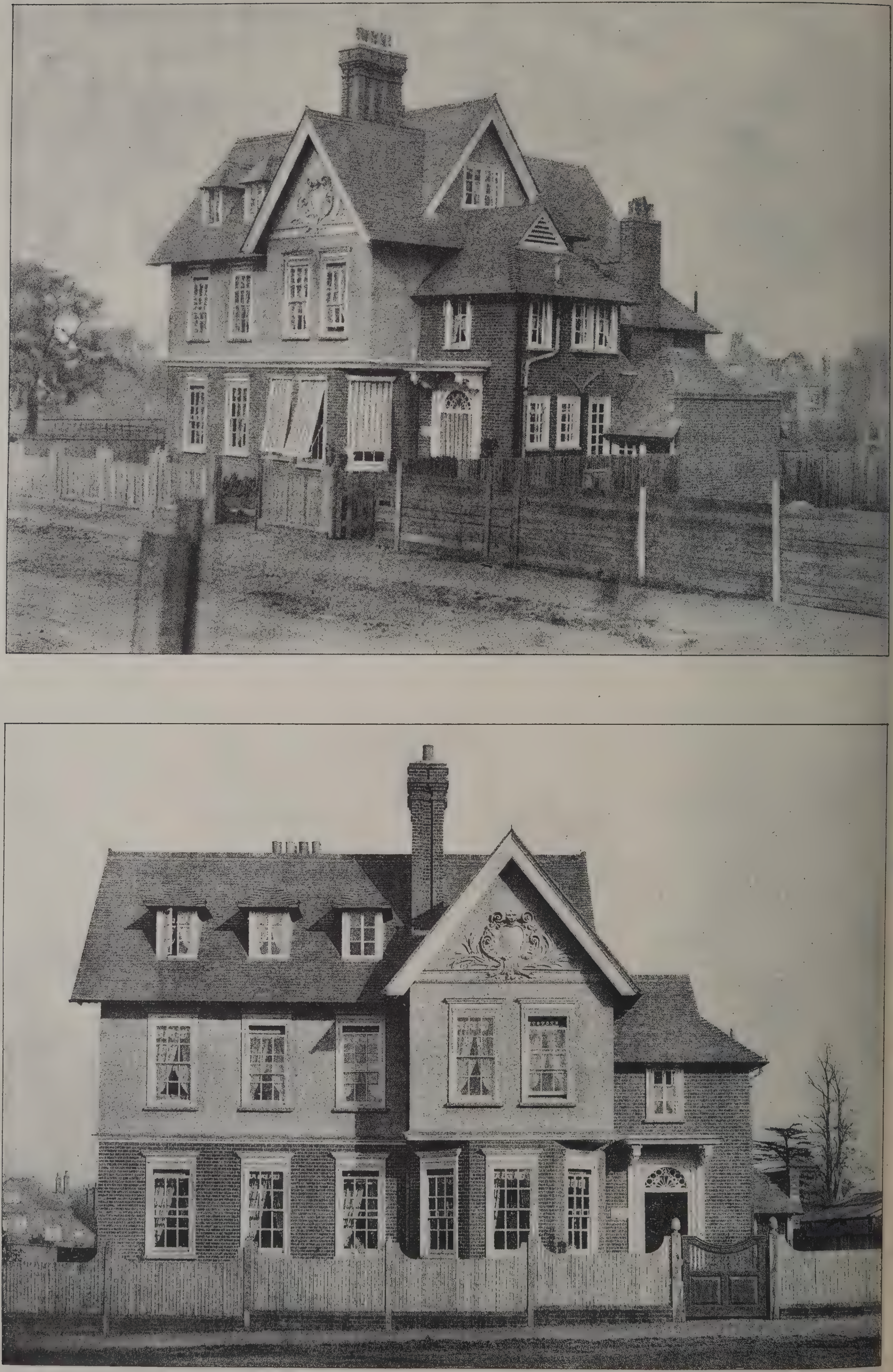

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HOUSE AT EAST PUTNEY.

ERNEST E. FETCH, Architect.

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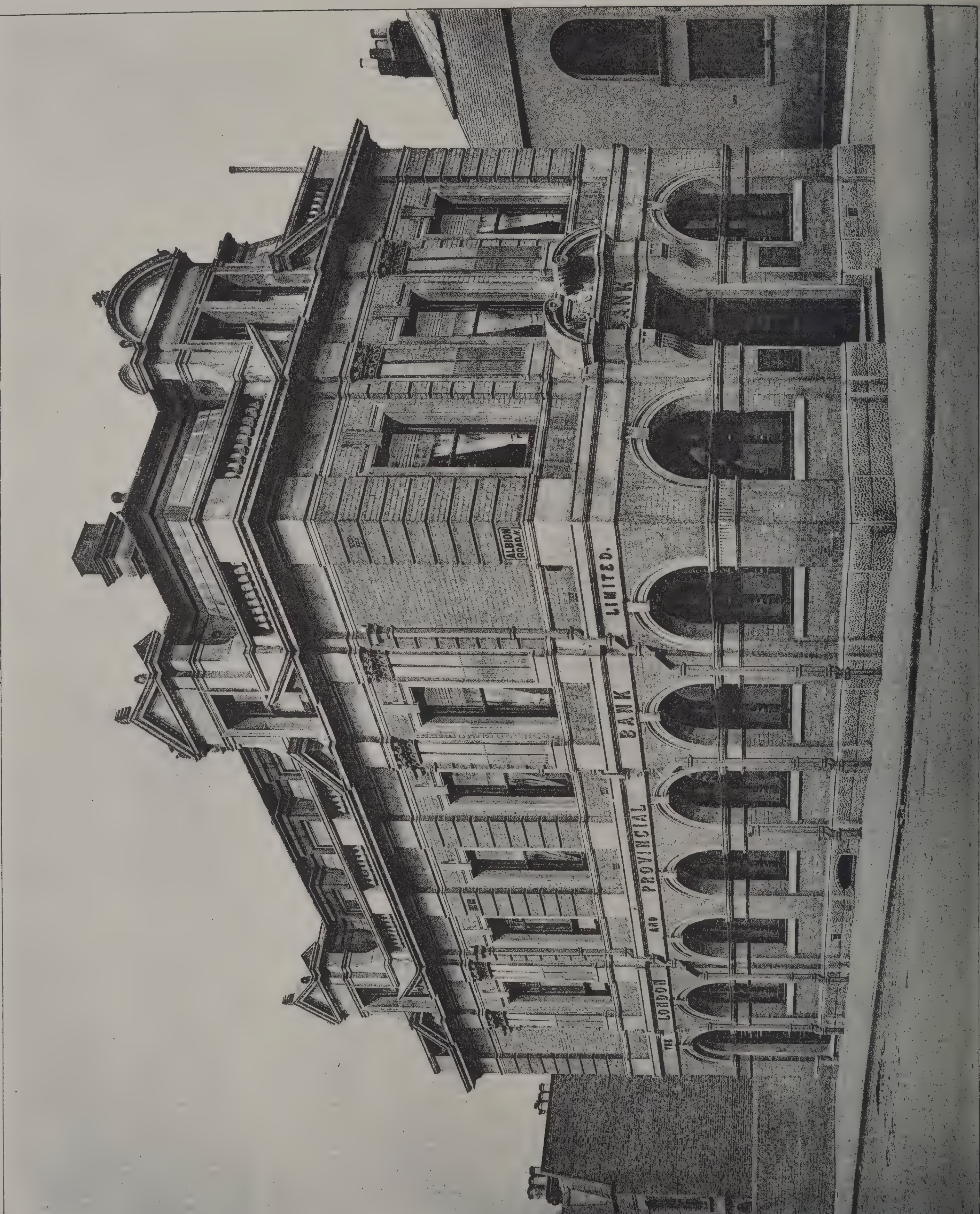
The Architect, Mar 16th 1900.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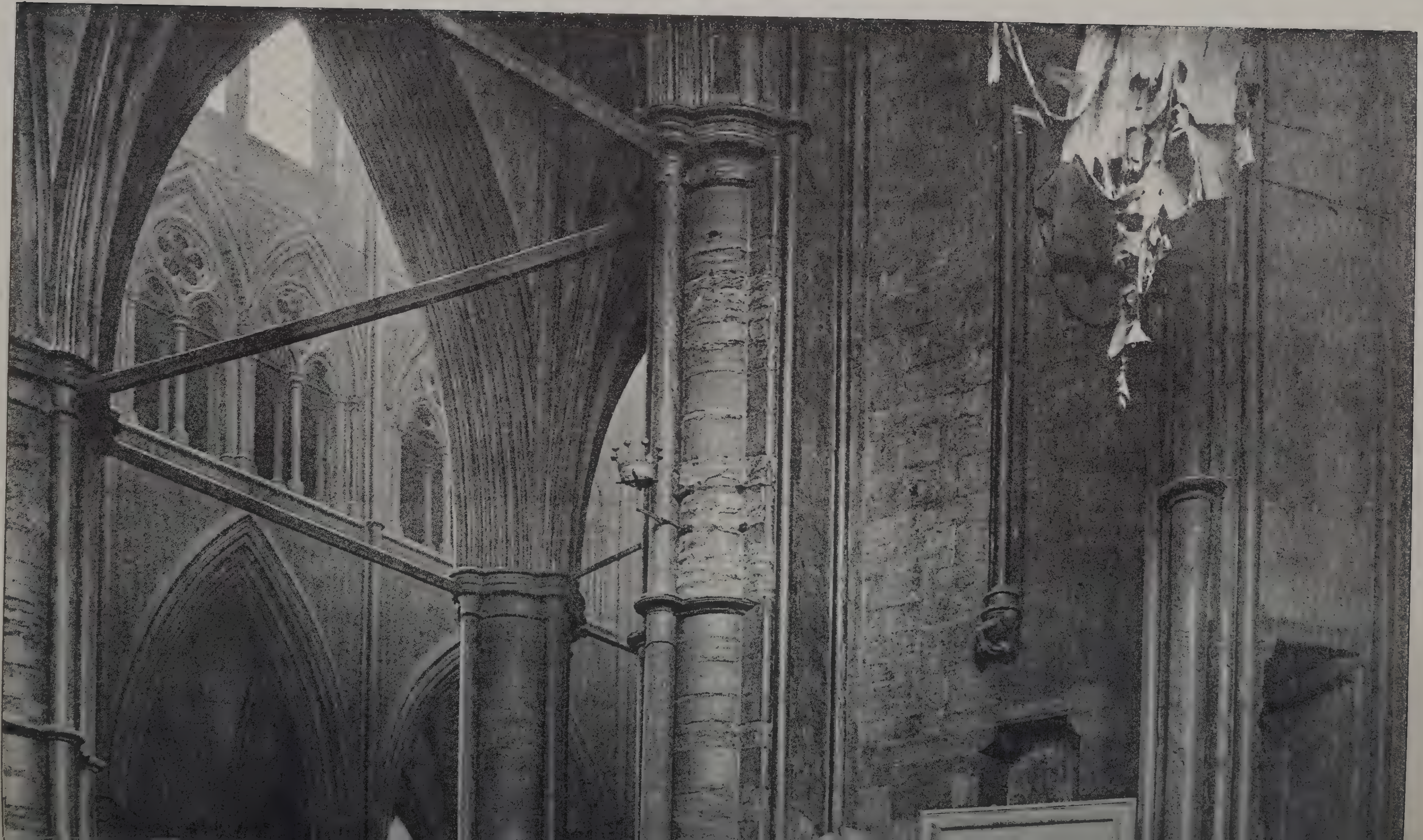

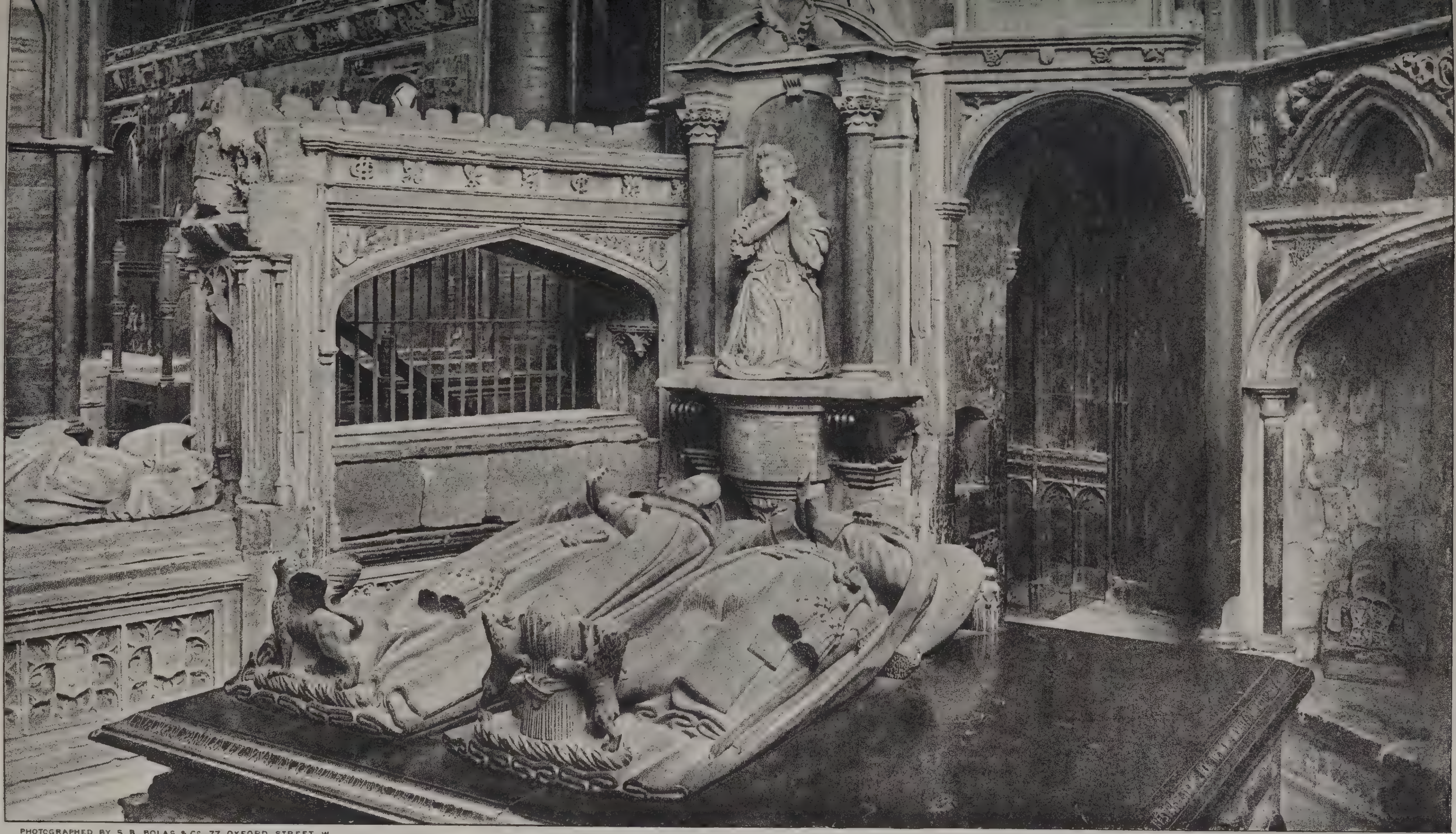

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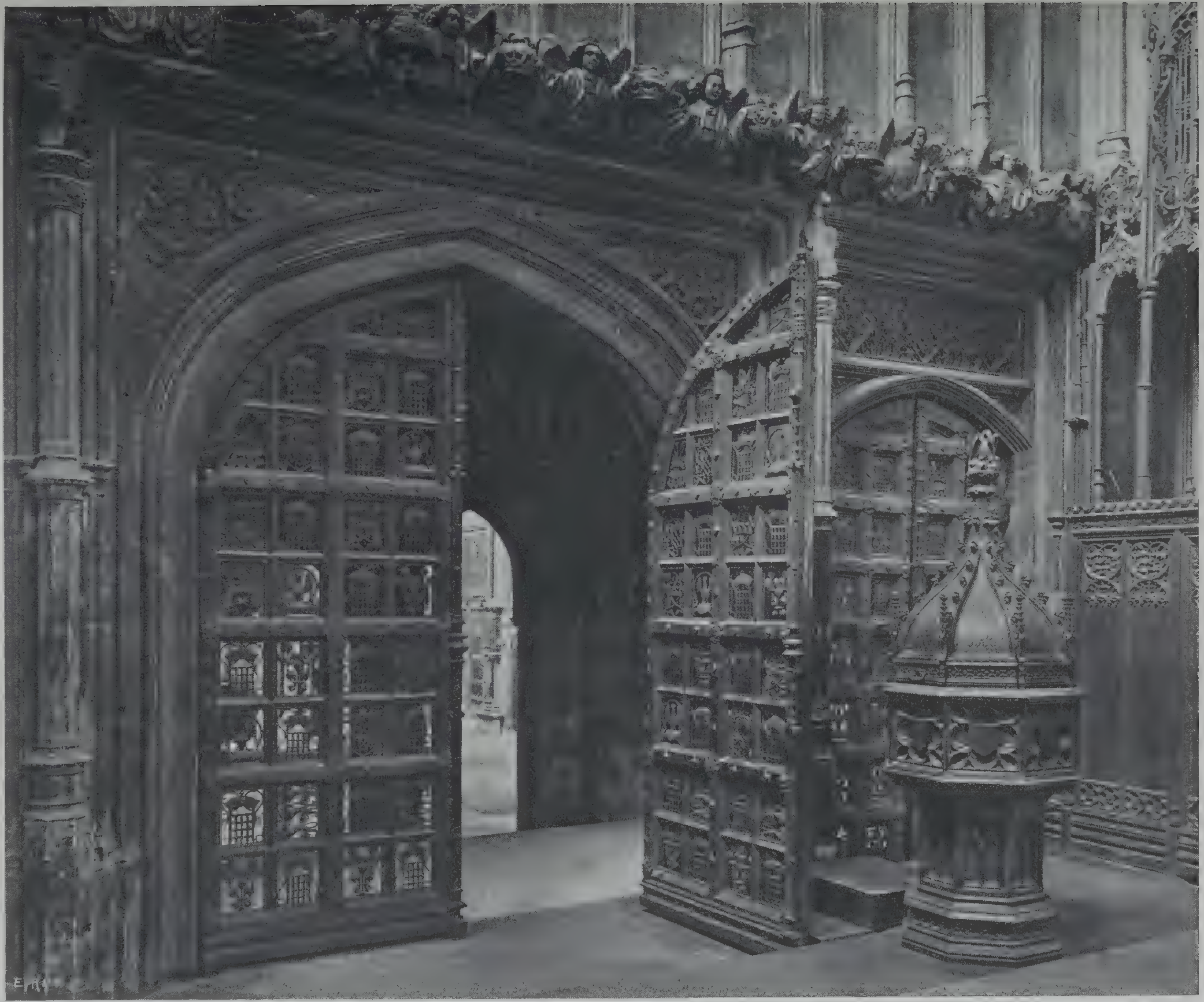
WESTMINSTER ABBEY, No. 29.

CHAPEL OF S. JOHN BAPTIST.



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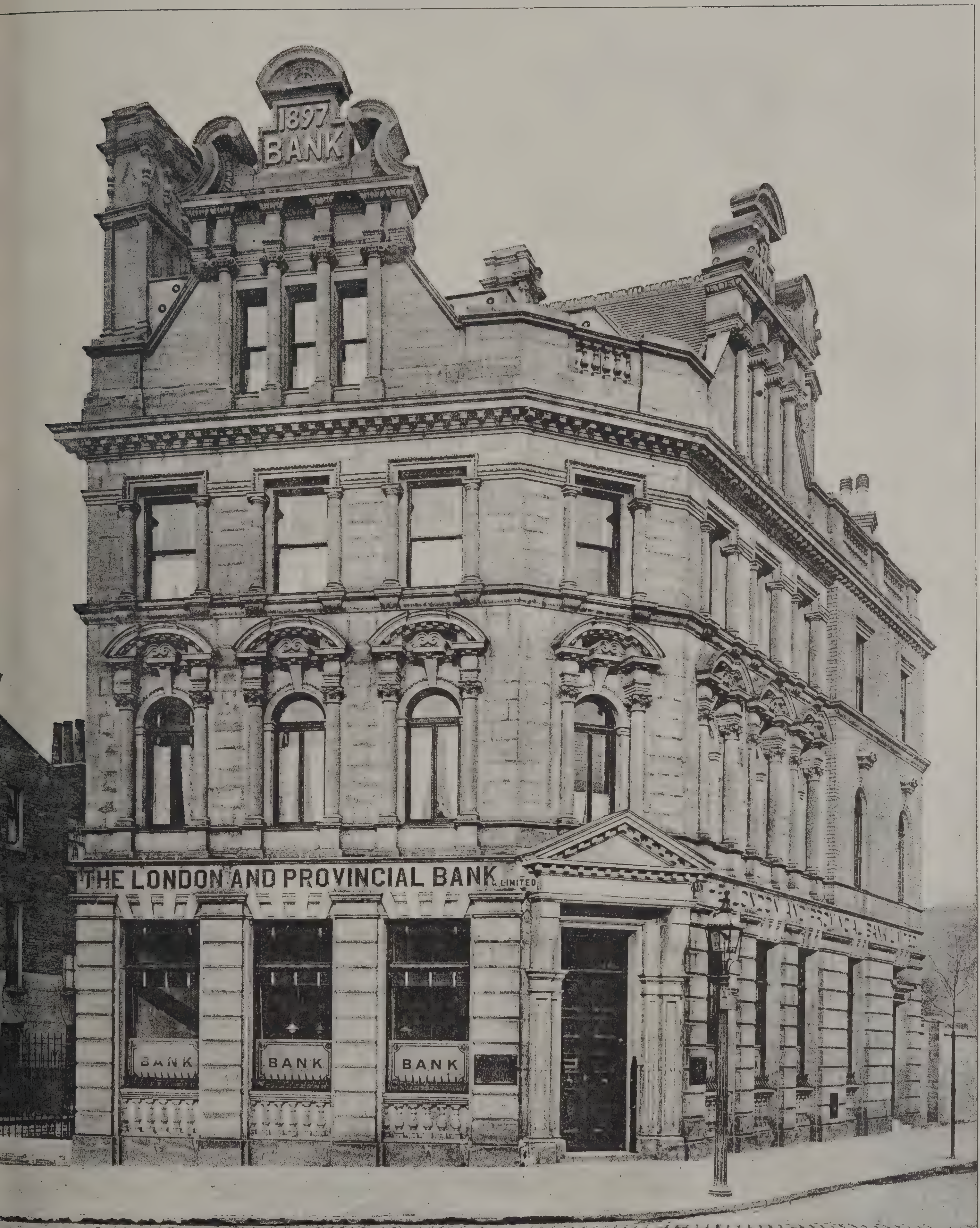
WESTMINSTER ABBEY, NO. 31.
BRONZE GATES, HENRY VII. CHAPEL.



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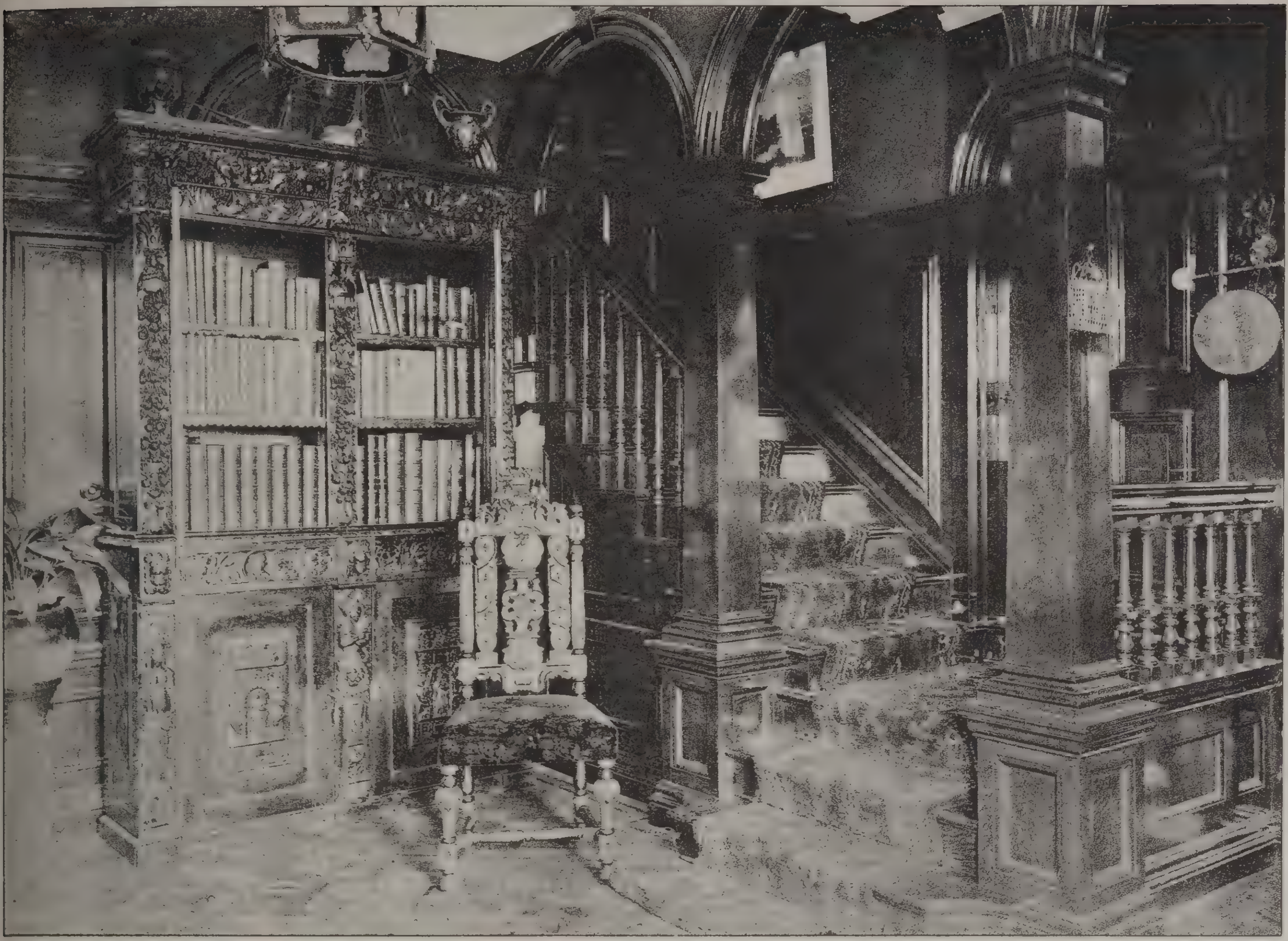
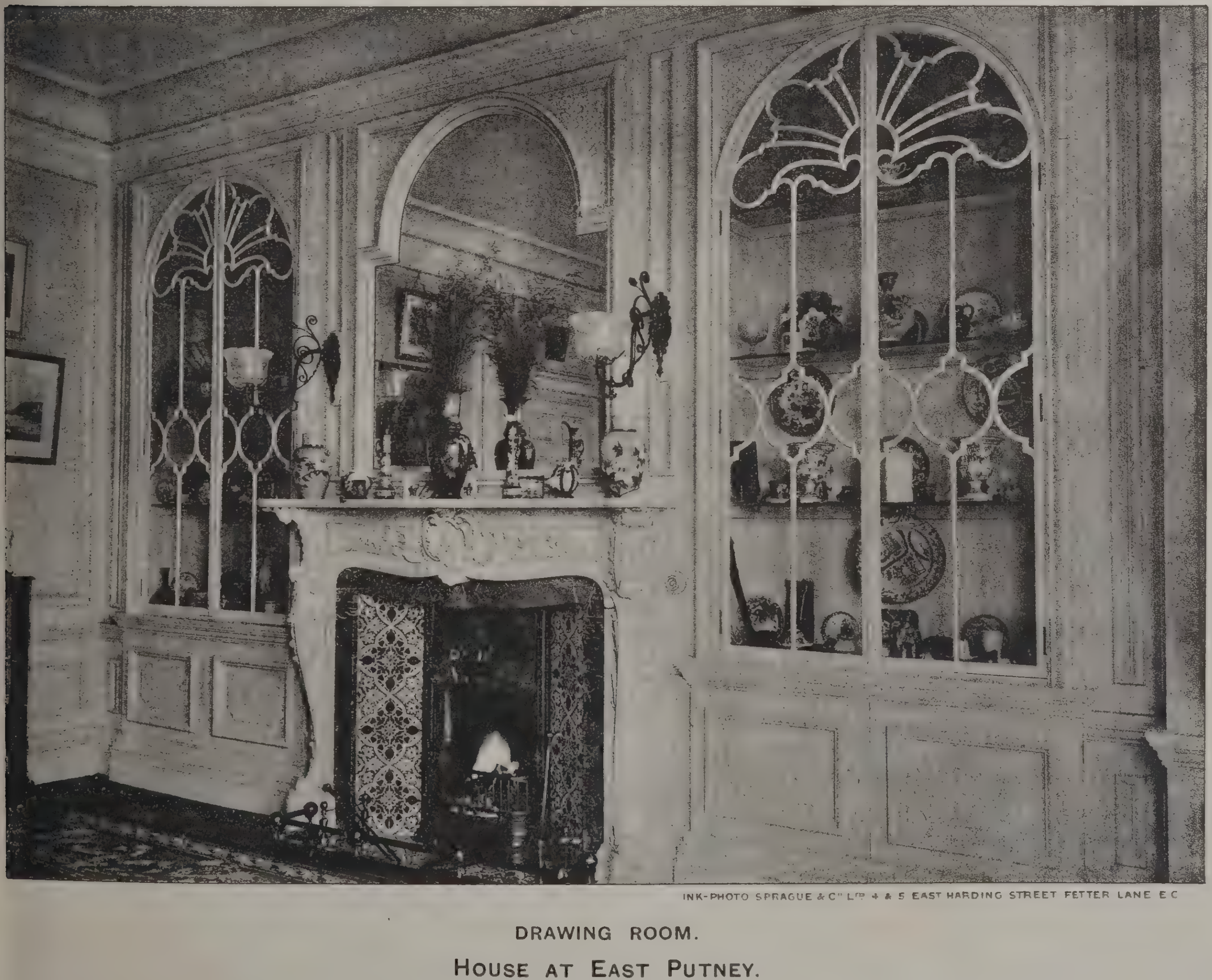
LONDON AND PROVINCIAL BANK, HACKNEY BRANCH.

Messrs. BOURCHIER & GALSWORTHY, Architects.



STAIRCASE HALL.



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DRAWING ROOM.

HOUSE AT EAST PUTNEY.

ERNEST E. FETCH, Architect.

The Architect.

THE WEEK.

When Her Majesty passes over Balls Bridge, which crosses the river Dodder in the suburbs of Dublin, she will have an opportunity to see a structure which has originated a municipal deadlock. When the bridge was erected there was not much traffic, and economy compelled it to be narrow. Traffic has since increased, and as a tramway passes over the bridge the roadway is far too inadequate. The tramway company agreed to pay the cost of widening and improving the bridge in the most substantial manner, but they declined to be responsible for any outlay on decoration. An estimate was prepared for the company showing the expense to be 2,500*l.*, but it was proposed to hand over 3,000*l.* in payment of all expenses. The Council obtained a tender from Messrs. Martin for the work, and it amounted to 7,230*l.* Alterations were made by the engineers which reduced the amount to 6,642*l.* 15*s.* 5*d.*, or more than double the money to be received. On Monday last it was proposed to go on with the work, but the question arose, Where was the money to come from? Counsel were consulted, and they expressed the opinion that the bridge should be constructed and the amount recovered from the tramway company. As it would be difficult to expect any contractor to wait so long, it would be necessary to pay him regularly during the progress of the works. The Council have to include the sum in a new rate, and the legality of that course is by no means certain. The members who are most anxious to see the work commenced say they must decline to sign any of the cheques for payment of the contractor, as they fear they would be held responsible for the amount. How the dilemma is to be overcome nobody can discover, for while all parties are willing to do their best to obtain a new bridge, there is a risk of a loss of a large sum of money. Whoever is selected as contractor will have to exercise extreme caution before agreeing to the conditions.

Warton declined to enter into a controversy about the etymology of the word "parvis," but there is no doubt it was derived through the French language from the Latin word *paradisus*. Littré defines it as the place before the principal door of a church, and especially of a cathedral. But where did the Latin word originate? An interesting note on the subject from that erudite etymologist, Sir George Birdwood, appears in the last number of the *Society of Arts Journal*. It runs as follows:—"Paradise"—at one time thought to be derived ultimately from either (1) the Sanskrit *para-desa*, "a far," "a foreign country," *para-desi*, corrupted to "purdasee," being the name given in the Deccan to natives, *cf.* Hindustan, or (2) from the Sanskrit *purva desa* [of "Parvaim" above], "Eastern country," familiar in the adjectival form of *parviya*, corrupted to "purboe," originally the name given to Hindoos living to the east of the Ganges, and then applied to native "writers" and "clerks" generally—is now traced to the Zend *Paradaeza* "enclosure," in Persian *firdauz*, "a garden," "a park," in Greek the "loan word" *paradeisos*, and so our Paradise, the Garden of Eden, Heaven, &c., and parvise, the porch under a church tower, or the room above the tower porch, or the "cloister close" of cathedrals, that of Chichester being still called Paradise, and of Chester Sprise Gardens.

The sum of 2,200,000 francs, the estimated cost of the rebuilding of the Théâtre Français, was voted on Saturday last, and also a sum of 220,000 francs to defray the cost of the temporary removal to the Odéon Théâtre and other incidental expenses. M. Guadet, the architect, is quite confident that the new theatre will be ready for the matinée which is always open to the public on July 14. But he admits that more work will have to be done than was at first contemplated. When it is remembered how slowly the works of the Opéra Comique were carried out, M. Guadet will be fortunate if he can perform the task he has undertaken in the brief space of four months. It may be mentioned that M. Chapelle, a contractor, has declared his willingness to complete the building in two months. The spectators will have to make allowances if parts are unfinished. The decoration can hardly be attempted, nor will it be possible to put in hands a ceiling painting, for the composition required to fill a circle of nearly 70 feet diameter is enough to make the greatest painter pause. So long as visitors to the Exhibition can witness performances on a stage where the Comédie Française will be most at ease the Government will be satisfied. When the Exhibition is over the troupe will depart on a long provincial tour, and the builders and decorators can work at ease without interruption. M. Guadet has adopted the system of separate contracts. He has selected the contractors who have from time to time been engaged on the works required on the building lately destroyed. They have consequently a personal interest in the undertaking, and the zeal they are now displaying is a guarantee for their success. The works will be carried on by night as by day, and it is expected that all the contractors will endeavour to facilitate each other's work. The principal differences from the old theatre will consist in the more direct arrangement of the staircases, and increased width will be given to the corridors.

The arrangements about the cost of admission to the Paris Exhibition, which is expected to be opened next month, have been determined. Tickets, each costing a franc, are to be used for admission, and they can be purchased in various places. From eight o'clock to ten o'clock in the morning two tickets will have to be obtained to gain admission. From ten o'clock to six o'clock in the afternoon one ticket will be sufficient, but after six o'clock two tickets will again be required. On occasions when there are spectacles or exceptional attractions the authorities can demand from three to five tickets. It is still uncertain at what hour at night the exhibition will be closed.

Most of the houses erected by societies or municipalities for the working classes are of the barrack type, but there is a reaction against them, and now smaller houses seem coming into favour. They cannot be erected unless in places where sites are cheaper than they are in towns. It is also necessary to have railway or tramway accommodation, and those conditions complicate the problem. It would be an advantage if official information were forthcoming about the experiments which have been attempted in various urban districts. Messrs. Cranfield & Potter, architects, have prepared a series of plans (B. T. Batsford, publisher) of small houses which are well deserving of attention by proprietors who at a little extra expense are willing to build in a manner that is not commonplace, nor likely to become an eyesore in the neighbourhood of expensive houses. However small, the proposed dwellings are superior to the majority of those which are to be found in suburbs where workmen live. The cost varies from 160*l.* to 420*l.*, the latter sum being the estimated outlay for two tenements. Such houses, if erected, would do much for the comfort of the working class, and the plans merit careful consideration. The difficulty of producing cottages that will not involve a large expense on ratepayers is exemplified in the last report of the working classes committee of the London County Council. Land was obtained in Greenwich which had been lying vacant for a long period, and the Council decided to erect cottages to accommodate 190 persons. Designs were prepared by Mr. Rowland Plumbe, but it was found they could not be carried out without involving a charge on the county rate, and the committee reluctantly came to the conclusion that an entirely fresh design of cottage must be prepared. The Council's architect was instructed to prepare a design for as cheap a cottage as possible. It also was found to be too expensive. The Council admit that their efforts since 1896 to produce a cottage which can be erected without involving the county rate have been unsuccessful. Apparently it will be necessary to erect the houses and to make up a loss of at least 30*l.* per annum out of that rate.

SIR FREDERIC W. BURTON, R.H.A.

THE late Sir FREDERIC BURTON, who passed away from us on Friday last in his eighty-fifth year, could claim to have rendered the State efficient service while he was Director of the National Gallery. But it may be doubted whether the labour he devoted to acquiring the knowledge which was necessary for such an office did not diminish his own creative force and executive skill as a painter. Connoisseurship is an admirable possession, yet one effect of it is to make an artist over fastidious; and BURTON was never disposed to be confident in his powers. Devoted as he was to art, and long as was his life, it is uncertain whether his position in the history of the painters of this country will be prominent. By some fatality his great gifts were nullified, for he was never destined to realise all the anticipations which were formed about his career by the contemporaries who knew him sixty years ago.

He was born in 1816 at Mongret, a village a few miles from Limerick, and belonged to a class that was higher in the social scale than that in which MULREADY and MACLISE arose. He studied art in Dublin under HENRY BROCAS. That artist loved to paint scenes of peasant life in Ireland, but he received little encouragement, although his works can occasionally be seen in dealers' shops bearing names which have more importance for buyers. BURTON'S skill was quickly made evident, and in 1837 he was elected an Associate of the Royal Hibernian Academy, and in 1839 he became an Academician. It was a barren distinction for any painter who was compelled to depend on art for a livelihood, for in the same year the whole amount of the sales from the exhibition amounted to no more than thirty shillings. BURTON was possessed of means, and although he was willing to paint portraits as well as figure-pieces, he was not, like most of the Academicians, obliged to descend to the drudgery of a drawing-master. He was regarded by many less as a "professional" than as an amateur of surpassing genius. It was known that he could only use his left hand, and his eyes were affected by some colours. To simple people the restrictions imposed on him by nature made him appear as one who played at painting rather than followed it to earn money. Among the Irish artists his ability was accepted as indisputable. In 1840 we find GEORGE PETRIE, who was the most skilful landscapist in the Academy, speaking of him as "The BURTON." THACKERAY visited Ireland in 1842, and, when referring to the exhibition of the Hibernian Academy, wrote:—"The drawings and reputation of Mr. BURTON are well known in England; his pictures were the most admired in the collection." Much was conveyed by the admission of the English knowledge of BURTON.

THACKERAY had also heard of the establishment of an Irish Art Union in 1840, and like the artists he was hopeful that the new institution would be advantageous. He was likely to have been amused by a patronage which involved the expenditure of 30*s.* as representing the interest of Ireland in art, for he said, "It is pleasant to see that people begin to buy pictures at all, and there will be no lack of artists presently in a country where nature is so beautiful and genius so plenty." The Art Union in four years after its establishment was able to obtain 12,530*l.* in subscriptions and donations, and the greater part of the money was expended in the promotion of art. Its success was mainly owing to the fact that the first plate produced was after BURTON'S *Blind Girl at the Holy Well*, by H. T. RYALL. Some of BURTON'S critics used to say the engraving was better than the drawing, but copies in black and white cannot be easily compared with originals in colour.

The picture initiated the adoption of a new method in representing the Irish peasantry. MULREADY, who, all things considered, was the best representative of Celtic power in painting, perceived there was no market for pictures in which his countrymen could be recognised as the subjects. He therefore idealised them, but in a novel way. The scenes which he observed in the narrow streets of his native Ennis appeared under more refined conditions. The peasant girl higgling with the country shopkeeper, in order to obtain a dress at a third of the price demanded, became a beauty in an orange robe who was buying her wedding gown from a stately merchant who might be one of the aldermen of London. The everyday scene in a hedge school of the appearance after time of a barelegged urchin became the *Late Arrival* in a comfortable village school, where the old master is a model of courtliness and sarcasm, and receives the victim with becoming solemnity. The common Irish custom of the "loan of a bite" gave its name to a picture, but the dramatis personæ do not appear as the poor children of Clare, but are well fed boys, and more variation is given by the introduction of an Italian and his monkey. MACLISE in his Irish pictures was disposed to caricature his countrymen. When he wished to utilise them for serious works he went further than MULREADY, for he encased them in German armour or Mediæval raiment. BURTON, as we have said, had been taught by HENRY BROCAS, who believed there were peasant scenes which were not unworthy of the pencil of a great artist, and there was no need to distort or exaggerate them. BURTON had also come under the genial influence of GEORGE PETRIE. He was one of the greatest of modern archæologists, but he was not to be considered as a mere enthusiastic collector of what BURNS called "auld knick-knackits." His unfinished essay on the "Round Towers" suggests the accuracy of his views about architecture, and his courage to withstand national prejudices in explaining them. He saw in the poor people around him not merely thriftless, ignorant, passionate, forlorn beings, who from their weakness became the dupes of agitators, but the representatives of an ancient race whose history was unwritten, whose genius was never allowed to be fully developed, and whom Fate seemed to treat with extraordinary cruelty, yet a race that could not be annihilated or brutalised. When BURTON was asked by PETRIE to make a drawing of a blind piper he was duly informed that "in the well-proportioned oval countenance so expressive of good sense, gentleness and kindly sentiments, we have a good example of a form of face very commonly found among the peasantry of the west and south of Ireland—a form of face which SPURZHEIM distinguished as the true Phœnician physiognomy, and which at all events marks with certainty a race of southern or Semitic origin, and quite distinct from the Scythic or northern Indo-European race so numerous in Ireland, and characterised by their lighter hair and rounder faces."

PETRIE'S words will help us to understand many of the characteristics of BURTON'S early work. He studied ethnology as carefully as in later years some landscapists studied geology, and instead of having an established type which was mainly conventional, he discriminated the people of one county, or part of a county, from those elsewhere. It is always possible in consequence for any one who is acquainted with Ireland to discern where the drawing or painting was made. He was no less faithful in recording peculiarities of position or effects of occupation. Thus in his *Blind Girl at the Holy Well* we see a maiden who is not only a native of Iar Connaught, but presents the peculiar form, and we might almost say waxiness, generally found in the faces of the Irish blind. The subject is the visit of a girl to a holy well in the hope of a cure. MACLISE has often represented similar scenes, but he thought only of making them disgusting or ludicrous. He judged like a clerical controversialist, in whose eyes all superstition was a heinous crime. BURTON, as became a disciple of PETRIE, saw in the scene an action which, from its antiquity and its motives, was interesting, and consequently he has presented it with fidelity, for what has an artist to do with doctrine? The well has a carved Celtic cross as an accessory, and thus becomes an example of art asserting itself in a wild region, and becoming more remarkable from the contrast with the desolate mountain of the background. The afflicted girl would serve as a figure of resignation, while in the mother's look we can perceive a conflict between faith and fear. Nature is nowhere more savage in aspect than in Connemara, and in the painting appears as inexorable as destiny, while the little group are like a forlorn hope struggling against odds which can overcome but are unable to subdue.

In a second Irish painting, the *Arran Fisherman's Drowned Child*, which was another favourite with subscribers to the Art Union, there are more figures. In this scene there is no place for hope. BURTON was familiar with the strange houses in Arran, some of which are almost beehive in form. The islanders wear a blue-coloured tweed unlike frieze, which they make themselves, and their shoes are, or used to be, of untanned cowhide. A little child has been drowned, and the body was recovered by a man who is dramatically explaining the circumstances. The cabin, which is only lighted by an orifice in the roof, is crowded with women, most of them with their dark blue cloaks over their heads. They do not appear to be sad, for among poor people the loss of a child is often a diminution of the cares of life. The mother's agony is demonstrated, but the principal figure is the father, who has turned his back on his visitors and with raised eyes and clasped hands is praying. The old grandfather assumes a somewhat philosophic look. He has seen too many of such scenes to weep, and apparently the mystery of life and death has become more of a puzzle to him. The picture is tragic but it is not theatrical, although to those who judge Irishmen by the representations of them to be found on the stage the incident must appear unreal and mawkishly sentimental.

Burton was able to manifest his capability to render other forms than those of the Irish peasantry. The late Helen Faucit (Lady Martin) was a favourite with Dublin playgoers. She was able to interpret in Ireland characters of the old dramatists which would not be tolerated in England. On each visit there was generally some play that was novel. A version of the "Antigone" of Sophocles was attempted, and the actress was considered to be more successful in it than in any of the Elizabethan or modern English dramas. Burton made a drawing of Miss Faucit as the hapless princess, who was represented as standing wavering between life and death, about to sacrifice herself out of devotion to her dead brother. This drawing will ever be the justification of De Quincey when he exclaimed, after seeing a performance of the play in Edinburgh:—"O heavens! what a revelation of beauty!—forth stepped, walking in brightness, the most faultless of Grecian marbles, Miss Helen Faucit as Antigone. What perfection of Athenian sculpture!—the noble figure, the lovely arms, the fluent drapery! What an unveiling of the ideal statuesque! Is it Hebe? is it Aurora? is it a goddess that moves before us?" Burton made another drawing of Miss Faucit. She is represented clad in the fashion of the time, standing by a table on which is a bust of Shakespeare. The contrast between the two likenesses raises a question which, we suppose, will never be determined. Why is it that the modern dress, which exemplifies the utmost skill of the modiste, has become old-fashioned and unworthy of the subject, whilst a Greek raiment will always seem becoming? The two drawings, if placed side by side, would justify those artists who have insisted that for heroic portraits classic costume is preferable. What is more strange is that the simple dresses of the peasant women in Burton's pictures also appear as if change of form was undesirable.

Burton's drawings now appear to the majority of people like ordinary examples which are executed in large numbers every year, and if they were shown in a modern gallery they would not receive extraordinary attention. But they have other claims to notice: they are evidence of an important, if frustrated, movement. In the forties an effort was made to insure expression of the Celtic spirit in the arts and literature. Burton was accepted as one of the leaders. Simultaneously a similar effort was made in politics, but the two efforts were entirely separate. Burton, for instance, drew a portrait of Thomas Davis, who had sympathy with all phases of the movement, and at Davis's request he designed a cover and title-page for the war-songs which were written by his friend and by others. But Burton had no more notion of shouldering a pike than the university professor who wrote, "Who fears to speak of '98?" or the militant poets who were lawyers or Government officials. Unfortunately the new art and literature were confounded with the seditious experiments. There was no Matthew Arnold in those days to explain to the English people the importance of the Celtic element in English literature and in English art, and the labours of German professors to demonstrate the wide relations of Celticism were unknown. Irish artists and Irish writers had often emigrated to England, and their names will for ever be associated with its history; but they were compelled to adapt themselves to the new circumstances around, and the spirit which originally animated them became dimmed. Men like Burton wished to have something resembling the brazen wall proposed by Bishop Berkeley raised all round Ireland, which would allow them to grow unaffected by outside influence. The project was Utopian, but to many it was so real as to compel self-sacrifice for it. Unfortunately the country was suddenly desolated by famine; an immature rebellion followed. Then came reaction, and those who, with Burton, were enthusiastic only for arts and letters were made to share in the contempt which awaited the defeated revolutionists. The effects which pursued the collapse were remarkable. Societies which were supposed to be outside the domain of politics expired as if the members had lost interest in life; even the Art Union could not long survive such men as Petrie, who had commenced great works, dropped their pens. Once more the Celtic spirit had to succumb to a panic among English Ministers, and a crime against civilisation was perpetrated under the guise of statecraft. No wonder many able natives turned sadly away from Ireland with the resolve to avoid returning to a country where there was so little to live for and where thought was not free.

Burton was among the self-exiled. He sought to find substitutes for his cherished models, the Irish peasants, in Franconia and other parts of Germany. His drawings received some admiration when exhibited in London, but Burton's colouring was considered to be inferior to his modelling and composition. One, *Franconian Pilgrims*, was in the English section of the Paris Exhibition of 1855. It was noticed by Edmond About, who said of it:—"The English critics have considered this drawing to be admirable for composition, but poor in colour and effect. Voluntarily, I vote with them." That was an independent judgment, and must be considered impartial. The words may also be an anticipation of the opinion of a later time on Burton's drawings. He was not a painter to be appreciated by those who have to race through galleries and can never bestow more than a glance on a picture. His *Turret Stair*, for example, received much abuse from critics who run and judge. Yet George Eliot said of it:—"The subject is from a Norse legend; but that is no matter, the picture tells its story. A knight in mailed armour and surcoat has met the fair tall woman he (secretly) loves on a turret stair. By an uncontrollable movement he has seized her arm, and is kissing it. She, amazed, has dropped the flowers she held in her other hand. The subject might have been made the most vulgar thing in the world—the artist has raised it to the highest pitch of refined emotion. The kiss is on the fur-lined sleeve that covers the arm, and the face of the knight is the face of a man to whom the kiss is a sacrament." Here we have the interpretation of a Celt's work by another Celt, for the novelist came of a Welsh family, and we see how easily the picture is made to yield its mystery. All Celtic art, no matter what the form, is intended for those who are endowed with insight, or who can brood over a work until it becomes eloquent. From that property it is not suitable to a busy age. Burton, who was never productive, completed fewer drawings as the years ran on, but he was not indifferent to art. He spent much time in Italy, and there with the aid of his practical experience he acquired a knowledge of the works of the different schools such as few moderns have possessed. Whatever the public might think, his friends were not surprised when it was announced in 1874 that the Government had appointed him Director of the National Gallery.

The duties of the office are twofold. The Director has to control the arrangements for the conservation of the pictures and he has to purchase additions. Anyone who has observed Burton's eager rushes to scrutinise his treasures, as if he were in terror of a variation in sunlight, cannot fail to conclude he was a most anxious caretaker. There have been fewer complaints about the restorations in his time than arose during the government of his predecessors. It was through anxiety for their preservation he was so zealous in systematically covering them with glass. He also effected alterations in the arrangements, which on the whole are satisfactory. As a purchaser he did not always hear his advising spirit order him to "buy, buy, buy." There were some schools of art which he did not prize very highly, and hence it was that he allowed a work by Dürer to find its way from this country to Berlin. Although it could not be said that in his own practice he had drawn much inspiration from Italy, there was no doubt he considered the Italian artists to be the highest masters in painting, and their works should be sought after with the greatest of energy. It should also be borne in mind that he was an Irishman. He had very positive notions about his duties not only to the Trustees but to himself, and he never realised he was appointed to imitate a commercial traveller and be always on the road.

It should also be added that he was not covetous of applause. He felt he was a stranger in London, and used to contrast the indifference which was exhibited by the crowds he encountered in Trafalgar Square with his earlier days, when he could hardly move a step in Dublin without being proudly recognised. The past had cast a shadow over him from which he never could emerge—it was only imaginary, but it was oppressive.

It was characteristic of his shrinking spirit when he said, apropos of his new edition of the catalogue of the pictures in the National Gallery, that where Mr. Wornum's notices needed only revision or slight alteration, they were *gladly* retained. In other words, he did not care to exhibit his knowledge to the multitude, and would have avoided superseding the old catalogue if necessity had not compelled a new work to be produced. All he did was to vamp it, but the new work is most valuable. There may be other catalogues which have more details about dimensions and cost of pictures, and with a larger number of facsimiles of painters' signatures, but for subtle criticism the English catalogue is incomparable. It is, of course, to be regretted he did not care about the uniformity of the descriptions, for the reader often receives a shock in passing from Mr. Wornum's compilations, which are excellent of their kind, to the keen technical criticism of the Director. He delighted in the past and he had skill in most branches of archæology, but naturally the one which had most attraction for him was that of paintings which were produced in the golden days of the Renaissance. He adopted no precautions to secure that his own writing was not confounded with anybody else's, but readers who will take the trouble to compare a revised and an unrevised catalogue will very soon be made to realise the difference between the two, and the qualities which make Burton's notices a delight to cultured amateurs as well as to students.

MYTHIC ARCHITECTS.*

It is the peculiarity of architecture that its creators are less known and remembered than the representatives of the other arts. One of the reasons may have been that in old days it was considered unworthy for an architect to inscribe his name on a temple. It has been maintained the Mediæval architects held that opinion, and if so their Classic predecessors were also likely to hesitate about identifying themselves with buildings erected for the noblest uses. But whatever the cause, the fact remains, and we suppose the obscurity can never be dispelled. What adds to the difficulty is that kings and other great people made no scruple about taking credit for an architect's work. Building was looked on in a symbolic sense, and for a ruler who enlarged a State or upheld it there could be no more expressive figure than one in which he appeared holding architectural instruments or engaged in architectural work. The number of eastern statues which are to be seen in the Louvre of kings who seem to be studying or devising plans suggests that they were symbolic portraits. Very numerous traditions have come down to us about the existence of architects, and the historians of architecture up to comparatively late years accepted them as if they were as trustworthy as other varieties of historical evidence. Thus Ninus, Belus and Semiramis have been admired as designers, and the epitaph of Sardanapalus, "I built Tarsus and Anchiale in a day, and am now no more," was taken to prove superior skill in construction. Milizia records the names of a great many mythic personages who were supposed to be professional architects, and he gives references to Greek and Roman authors for what he relates. Félibien at an earlier time attempted to give a history of architecture in the only way that is suitable, that is, by the adoption of a biographical basis. But so much in all these accounts appears to be fabulous they are not acceptable in a sceptical age like the present. In America, however, they are destined to receive more welcome. Nathaniel Hawthorne, who was representative of the modern American spirit in literature, did not hesitate to rewrite Grecian legends for the benefit of his younger countrymen, and with so prominent an example before him, we are not surprised to find Mr. Harry Douglas narrating the traditions about eighty-two ancient Greek architects, and with a conviction of the credibility of the legends. He does not attempt to go behind the circumstances and to give a new interpretation of the traditions, but accepts them frankly as he would any biographical information about which there could be no doubt. Whether his system is right or wrong it is impossible to decide. What is told relating to the architects may have as many interpretations as other myths. But, on the other hand, they may have been founded on facts, and be suggestive of the character of individual artists.

We must all agree with Mr. Douglas about what he says regarding the indifference of the public to architects. Although America is a new country, it has to be admitted that the names of several of the designers of buildings which are admired are not easily to be discovered. While, therefore, he regrets the want of interest shown by Greeks and Romans in the architects of their buildings, he is forced to acknowledge that little or no improvement is found in modern times. "Do not our modern authors," he asks, "overlook the fact that the architects of their own age share, as a rule, in the same popular indifference, and that the period of revival is no exception to the period of inception; that the one has inherited from the other not only the forms and principles of its art but the same neglect of its artists?" He points out that in ancient literature only two writers are to be found who have given much attention to architecture, one is Pausanias, the other Vitruvius. The latter had apparently a professional interest in architecture, but he was not successful, and was to be excused if he neglected to collect the information about his contemporaries which would now be read with interest. He refers to the malpractices of architects in soliciting commissions, and laments over the noble science being in the hands of unlearned and unskilful men, who were ignorant not only of architecture but of everything relative to building. In consequence he did not object to the principle of every one being his own architect, for, as he said, if the profession is doomed to be carried on by the unskilful, there is, at least, more satisfaction in laying out money for one's own pleasure than for that of another person.

The first Greek architect was said to be Æacus, a son of Jupiter by Ægina, daughter of the river god, Asopus. But as in modern times we are disposed to agree with the clown in "Titus Andronicus" when he said, "Alas! I know not Jupiter; I never drank with him in all my life," the humblest practitioner is not likely to be exalted by so divine an origin, especially as Æacus is supposed to have been no more than a piler up of stones without mortar to forms the walls of little Greek villages. He was invited to assist Apollo and Neptune in erecting the walls of Troy, but their combined work was not invulnerable.

There is more human interest about Dædalus, who as a cousin of Theseus was also supposed to be allied to celestial beings. Socrates, who was a reverential man, could not persuade himself to believe there was anything extraordinary about his works, for he once said, "If this Dædalus, whom we look on as our first master, were to return to the world and to perform similar works to those which now pass under his name, they would render him ridiculous." His flying machine was not more successful than those of the nineteenth century, and was fatal to his son Icarus. But as the subject can be converted into excellent pictures the experiment is to be excused. At a later time we meet with Agamedes, whose father was said to be either Apollo or Jupiter, and Trophonius, his partner, was also supposed to be Apollo's son. "It is in respect to these architects," says Mr. Douglas, "that the first authentic account of a misunderstanding as to professional compensation is recorded. It must not be thought that because some of the early architects were related to the nobility of Mount Olympus that they were any the less mercenary than are architects in our own time, or were any more inclined to work for nothing than are their professional descendants to-day." Mercenary is hardly a fitting term to be applied to those who generally have to be content with an insufficient reward for their services. Agamedes and Trophonius were employed on a temple at Delphi, but had received no pay for their work. They appealed to the oracle, and, as was not uncommon, received an evasive answer. They were advised to wait and meanwhile enjoy festive indulgence. As a result of the debauch they died, and the devout men who got up the temple consequently escaped paying the architects their fees. Trophonius, however, after his death was supposed to do a little profitable business by setting up as an oracle on his own account, and, indeed, the pair seem to have been the subject of many irreverent stories.

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* *Some Old Masters of Greek Architecture.* By Harry Douglas. Published at the Quarter-Oak, Great Barrington, Mass.

The legend of Agamedes and Trophonius is childish, and yet it has helped to preserve their names. The ordinary architect in those remote days, who was faithful to his professional duties and was a good citizen, had not even a slight chance of immortality, while those whose names were associated with some trifling incident have been preserved from the usual lot of the majority of men. Ictinus was undoubtedly a great man, otherwise the Parthenon would not still be considered as a miracle of art. But as he appears to have devoted himself to his business, it has been doubted whether he was more than the contractor or the clerk of works for the temple. Mr. Douglas, who is assumed to be writing in defence of architects' reputations, is disposed to give the credit for the success not to Ictinus, but to the sculptor. "If Phidias did not draw," he says, "the actual plans of a building or other structure, his judgment could indicate its order, its location and such other characteristics as it should possess to harmonise with the features with which it was to be associated. He could group the majestic masonry of his time in grand display, could beautify it with his own chisel, and could form and mould the complete architectural picture." But in no age was a sculptor so accustomed to deal with large masses of masonry as an architect, and general experience justifies the belief that what was most creditable to Phidias was his readiness to accept the conditions which were prepared by the architect and to make a noble use of them. Both artists, we may imagine, consulted frequently before as well as during the building operations, and each was equally anxious for the success of the temple, which was to redound to the reputation of Pericles, the beauty of Athens and the glory of the goddess. Another architect of the time, Mnesicles, will be remembered because he is supposed to have been a slave to Pericles, and after falling from the Propylæa was cured by the intervention of Athené. It is doubtful whether the Athenians would tolerate the employment of a slave on so important a structure as the Propylæa. Pliny's version of the legend is probably nearer the truth: He says it was one of the artificers who fell, and was saved by the use of parietaria on the recommendation of the goddess. If in an age when so many writers were to be found in Athens we cannot ascertain who was the architect of the Parthenon and whether Mnesicles was a slave, it is hopeless to expect aught but fiction in dealing with the architectural legends of an earlier age. But if they are not trustworthy they are interesting, and Mr. Douglas has done well to aid in transmitting them to a people of whom no Greek could dream, living in a part of the world that appeared more remote for the purpose of communication than the planet Mars is now.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.

THE ordinary meeting of the Sheffield Society of Architects and Surveyors was held at the Montgomery Hall on the 13th inst. Amongst those present were Messrs. J Smith (in the chair), C. Hadfield, E. M Gibbs, T. Winder, J R. Wigfull, J. B. Mitchell-Withers, T. Myles, T. S. Brown, F. W. Chapman and W. C. Fenton (hon. secretary).

Messrs. E. Holmes and C. B. Flockton were elected auditors.

Mr. C. M. Hadfield, A.R I B.A, read a paper on "Architecture of the Fifteenth Century and the Early Tudor Period." He said the epoch of English national architecture, which flourished and developed for some 400 years, came to an end in the midst of the sixteenth century. Its further progress was curtailed by the Renaissance, from the advent of which movement the practice of architecture as carried on at the present day commenced. The methods and ideas of the Renaissance prevailed unquestioned down to the present century, in the course of which strenuous efforts had been made to make architecture once more an original and progressive art. These efforts had to a great extent proved abortive, accomplishing only a mere succession of revivals or fashions, with the ultimate result that at the end of the century we found ourselves reverting to the so-called "Classic" traditions which were in vogue at its commencement. The persistent study of our native architecture, and fidelity to its teachings and methods, were the only means of making architecture once more progressive. The work of the fifteenth century represented the latest and most fully developed phase of English structural art It was distinctively English, and solved all the essential requirements of a civilised and cultured state of society. It took its place unquestioned at the head of the art of its day, marking out the bounds of their work to designer and craftsman alike. Mr. Hadfield dealt with the history of the rebuilding of Gloucester Cathedral, and with the erection of the celebrated nave of Winchester, by William of Wykeham, as showing the gradual and continuous development of architecture in the period. He described King's College, Cambridge, as a classic monument of English art, and reviewed various examples of ecclesiastical work, calling attention also to the high level of all-round craftsmanship attained. In describing the domestic architecture, he took examples from the collegiate work of Oxford and Cambridge, Hampton Court Palace, &c., and traced the origin of the type of an English public hall or interior to the same period In conclusion, he urged those who had devoted their life's work to the production of buildings to apply the knowledge gained by the studies and researches of the last 100 years in the light of the principles embodied, remembering the proud past of English architecture, and striving to resume the broken continuity with the days when their craft represented the progress and commemorated the achievements of the English race.

On the motion of Mr. E. M. Gibbs, seconded by Mr. J. B. Mitchell-Withers, and supported by the President, a hearty vote of thanks was accorded to Mr. Hadfield for his interesting lecture, which was illustrated by limelight views prepared by himself, and shown by Mr. Atkinson, of University College.

A large collection of drawings which had won prizes in the annual competition of the Royal Institute of British Architects were exhibited. Among them were drawings of St. John's College, Oxford, the designs for a school of art which won the Soane medallion of 100*l*., the exhibits which won the Owen Jones, Pugin and other studentships.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last at Conduit Street, W, Mr. William Emerson, president, in the chair.

Mr. J. Fletcher Moulton, Q C., M P., read a paper entitled

Ancient Lights.

Mr. Fletcher Moulton began by showing that though in law phrase the rights of light and air had come to be connected, the rights themselves were really very distinct. The two subject-matters, and the legal questions to which their appropriation for the purposes of human enjoyment gave rise, were strikingly in contrast. In the days when windmills afforded almost the only instrumentality for preparing flour, the access of an uninterrupted breeze to the mill was a matter affecting proprietary interests, and raised questions similar to those now concerning access of light. In these days the still, diffusing air is common property in which no private rights grow up, and hence the law is more a matter of regulations having public health as their object, while the law relating to light remains undisturbed upon the foundations of private right. The question of reform in the law of light was one of immediate and pressing importance, and in any Bill which the Institute should tender to the Legislature they should carefully distinguish between light and air, and limit their proposals to the former subject. The learned lecturer expressed himself as anxious to further to the utmost the practical ends the Institute had in view, and proposed to put before them as full a statement as possible of the principal practical reforms called for by the existing state of the law. In the first place, it is desirable to express in a clear and available formula what is the measure of an owner's right in respect of ancient lights The Prescription Act provides :—"When the access and use of light to and for any dwelling-house, workshop or other building shall have been actually enjoyed therewith for the full period of twenty years without interruption, the right thereto shall be deemed absolute and indefeasible." It is, therefore, very clear that in order to measure the light to a continuance of which the owner is entitled, one has only to measure the light actually enjoyed during the twenty years' term. Nothing could be simpler or more definite than this rule. But acting under cover of the doctrine that the law does not heed trifling invasions of right, the courts had in practice treated plaintiffs as though they were only entitled to a reasonable enjoyment of light, no matter how complete their enjoyment in fact had been, and it had come to be considered that reasonable requirements were satisfied if the owner of the privileged windows got an uninterrupted view of 45 deg. of sky from the zenith. Thus the question whether the encroachment is to be taken seriously or not is a very real and possibly troublesome question even in a case where considerable encroachment may have been actually made. Although the courts nominally accept the dictum that it is the light as previously enjoyed, it is obvious that the two principles are irreconcilable: if reasonableness decides it, history is irrelevant; if history decides it, reasonableness is no matter. Dealing with the alternative remedies for obtaining redress where rights of light were either infringed or threatened—viz. by an action for damages, or by an injunction to restrain the wrongful act—the learned lecturer showed that, although resting upon very simple principles, the law concerning this matter was involved and intricate, and needed to be simplified and made coherent. This could hardly be done by mere words in an Act of Parliament. An improved verbal definition was not required, but an approved way of applying the existing definition to the fact, and perhaps an improved method of arriving at the facts themselves, and a greater latitude in the choice of remedies. The matters mentioned might profitably occupy the attention of members of the Institute and the other expert persons with whom they proposed to associate themselves in the preparation of an amending Act of Parliament. Mr. Moulton then went on to suggest the lines upon which it seemed to him their new legislation should proceed. An end should be put to the technical rule that damages cannot be given for a threatened injury of this kind. The High Court might safely be given the fullest discretionary power, in every case where an injunction to restrain the darkening of ancient lights can be granted, to substitute for the injunction in whole or in part a money payment by way of damages, so that, if the merits of the case demanded it, there would be no difficulty about authorising a definite encroachment upon equitable terms, while at the same time restraining some further threatened encroachment by an injunction. Details of a hypothetical case were instanced by Mr. Moulton to show how the discretionary power suggested might be exercised by the Court so as to effect an equitable and satisfactory settlement. In any proposed change of the law power should be preserved to the Court to keep the rights of the easement owner intact, and to protect them as amply as at the present time by injunction. Mr. Moulton anticipated that a detail of the remedy suggested might incur the censure of lawyers, viz. that features of the building design, such as the use of white bricks, which tend to minimise the inconvenience, should be taken into account in adjudicating upon the relief. Though the suggestion had been scouted by judges and the arguments against it were cogent, yet legislation might do much to alter the conditions so as to favour the use of white bricks. Even if allowed to become soiled they improve the lighting of closely built-in areas, and the law should encourage their use. Replying to possible criticisms that the reform proposed would sometimes involve serious delay, Mr. Moulton said that was far from his intention; he aimed at facilitating as well as simplifying this class of litigation. The sooner the plaintiff brings his action to trial the better. An injunction cannot issue too early, if it is to issue at all. But there need be no hurry about assessing damages. The injunction should be decreed forthwith, and the question of damages adjourned until the building, as permitted, was complete. Damages could then be estimated in view of the actual interference with the easement, and the due satisfaction of the judgment when awarded might meanwhile be secured by a mandatory injunction to pull down the obstructing building, which would take effect unless the judgment were satisfied by a given date. If such a plan could be carried out, the most serious mischiefs of the existing law might be remedied. Although the proposal took the shape of a legal reform, the question at bottom was not so much a legal as a practical question; the legal difficulties would be easily surmounted if a practically useful way of estimating damage and of distinguishing the easement owner's essential interests from his merely technical rights could be arrived at. The distinction was perfectly clear in principle; but the question was, Could this distinction be practically defined and ascertained with such precision and certainty as to become entitled to legal recognition? That was a matter the Institute should investigate. Urging that something should be done to control the insidious march of prescription, Mr. Moulton suggested means for limiting the acquisition of such rights. In conclusion he said that, assuming that there may be a demand for the assistance of independent experts such as architects and surveyors, in the capacity of assessors or referees, it was desirable to consider in what form the advice and opinion of such technical advisers of the Court might most conveniently be prepared, and what mode of selection would most surely command the confidence of the public, as represented by the classes best able to judge, in the competency and impartiality of the skilled persons who might be called upon to undertake these duties.

II.

Mr. J. Douglass Mathews read a second paper on the same subject, but confined himself to the difficulties experienced by architects in erecting or altering a building dominated by ancient lights and the unsatisfactory methods now adopted to settle differences. He contended that if certain simple rules could be laid down, such as that no erection should be permitted above a line drawn at an angle of 45 degrees from the horizon from the sill of an existing window, or within certain angles laterally, there would be no greater difficulty in complying with them than with Building Acts or sanitary by-laws. But the law as to ancient lights was not so codified, and there was much room for uncertainty. By way of illustration Mr. Mathews put two or three hypothetical cases showing that the application of the law was beset with difficulties, and its interpretation so expensive and dilatory that rights were often surrendered which ought to have been maintained. As matters stood an unscrupulous person had an opportunity of preventing his neighbours from using their property to the best advantage, except by payment of compensation (often blackmail), and the law afforded no means except by mutual agreement to alter old lights in a way beneficial alike to the owner of the dominant light and to the person erecting his new building. Instancing the long, cumbersome and unsatisfactory nature of the proceedings where the matter in dispute was taken into Court, Mr. Mathews said that probably no more ambiguous and unsatisfactory a subject could come before the judge, on account of the direct contradictory assertions made by both sides of facts and opinions, for which architects and surveyors were to a great extent responsible. The system only tended to mystify and worry the judge. If, Mr. Mathews suggested, instead of the usual proceedings, both parties were to agree upon the facts, and then to state a case to the judge, it would in most instances be easy for him to arrive at a decision, and much saving of time and money would result. Since the passing of the Prescription Act, nearly seventy years ago, such vast changes had taken place that what was a reasonable law then had now become arbitrary, and the fair use of valuable property was interfered with. A new Act was therefore called for. New legislation, whilst carefully guarding the rights of ancient lights, should treat them more in the nature of easements, and, provided that an equivalent be given, the particular merits of the case should be taken into account rather than the hard and fast rules of law. Discussing the question what could be done to lessen the present evils, and to simplify the mode of procedure in dealing with ancient lights, Mr. Mathews called attention to the work the Institute had already done in connection with the matter. As long ago as 1881 Professor Roger Smith opened a discussion on the rights of ancient lights, and made several valuable suggestions with a view to make the law clearer. As a result a committee was formed, and the opinions of lawyers and architects were sought and obtained, and a digest of such opinions was published in the *R.I.B.A. Proceedings* for March 22, 1888. Professor Roger Smith and Mr. Douglass Mathews, on behalf of the science committee to which the subject was afterwards transferred, prepared certain proposals which, after much deliberation by the committee, were embodied in a report to the Council. The report was ultimately discussed by the general body and its principle approved. Having briefly outlined these proposals Mr. Mathews gave it as his opinion that the report in which they were embodied by the science committee in 1893 would be found practicable with certain alterations and conditions, one of which should be that before a building is taken down or any alteration made in an old one, it must be measured, and plans, elevations and sections drawn, which should be verified and certified by the district surveyor in London, or by the borough or other public surveyor elsewhere; and that such drawings should be available for inspection by interested parties on payment of a small fee. By this means no doubts would arise as to the extent and height of the original building. Legislation on the lines advocated would secure the following advantages:—(1) Reliable facts as to the former buildings would be ascertained and tabulated; (2) the building owner would have to make known his intentions, so that interested persons could ascertain if their rights would be interfered with; (3) by the employment of an architect or surveyor appointed by each party the facts could be calmly discussed and probably one-half the differences settled; (4) when such was not the case, the umpire, after hearing both sides and viewing the premises, would form his own opinion, and when his award was delivered it would undoubtedly be carefully considered before further steps were taken by either side; (5) the appeal to a tribunal of recognised experts, composed of not less than three persons, would afford an opportunity of hearing evidence assisted by counsel, the procedure being similar to that of an action in the High Court; (6) the tribunal having all facts before them, with the opportunity of viewing the premises, their decision should be regarded as final, but the discontented party should still have the right to sue for damages in the High Court if he considered that he had suffered loss by the action of the tribunal. Thus the settlement of differences would be expedited, much expense saved, fairness and equity would be secured to dominants and serviants alike, and the risks and expenses incurred in stopping the progress of works and in altering and pulling down buildings when erected, would be avoided. He hoped the Council would at once take steps to obtain an alteration in the law. As the Surveyors' Institution was much interested in the question, the co-operation of that body should be invited.

III.

Mr. Beresford Pite, who contributed a third paper, first considered the restrictions on the height of buildings contained in the London Building Act, 1894, sections 15, 41, 47, 48 and 49. Briefly, the restrictions are as follows:—(1) A general regulation of the height of the back of houses to insure an angle of 45 degrees of light; (2) an extreme limit of 50 feet in height in all buildings; (3) in streets laid out subsequent to 1862 of a less width than 50 feet, a restriction of height to width insuring an angle of 45 degrees of light; and (4) a right of appeal granted to owners within 100 yards distance against any consent to exceptions to these limits granted by the London County Council. These regulations were passed in the general interest of the community. They are in their nature sanitary rather than architectural, and their motive is not the desire for symmetry or uniformity of effect. There can be little doubt as to their usefulness and wisdom. Buildings of extravagant height are not in demand in London. Lofty blocks of tenements for the poorer classes are not desirable. The disreputable and least cleanly of the tenants usually occupy the topmost floors, and being more out of the way of inspection an upper world of uncleanness is created that would have been less possible at a lower level. The statutory regulation of height is permissive of any height within the limit, and therefore not likely to produce lifeless uniformity of skyline. Though this legislation has limited the freedom of building owners, the freedom of adjoining owners to interfere has been left unfettered. Therefore, with restriction of height might there not have been secured absolute permission to build up to that height? The author next considered restrictions of height which are not statutory and not exercised on behalf of the sanitary interests of the community. They are the private, and might be called the personal, rights to preservation of access of light, when once conferred by prescription, over the land and buildings of adjoining neighbours. These rights once acquired are indefeasible, and are superior to the statutory law, the limited height granted in the interests of the community being restrained and denied by the prescriptive right of the individual. The right to restrain the height of buildings acquired by prescription is in its nature sufficiently uncertain and indefinite to render its application obnoxious and often a considerable hardship. The steady but unobserved growth of prescriptive lights which enables the owner to restrict building is not the only peculiarity that renders them uncertain and difficult to deal with. Their effectiveness to restrain may depend upon a private and particular use made of the window by its owner for the time being, of which no idea can be formed by external observation. This private right, in effect, has become seriously oppressive to the holders of property. Its acquisition is surreptitious, as it procures from a neighbour property of great possible value to him without consideration or consent. Add to this the capricious nature of its use and application, and a sufficient grievance has been shown to justify some measure of relief. The communal desirability of sanitary regulation in building heights is admitted, but no common or public interests are furthered by the prescriptive right of restraint. Its existence is inimical to municipal improvement and unworthy of retention. The use that is made of claims for rights of light for delaying building operations in order to extract heavy compensation has become a serious abuse. A seldom-used window acquires an unlimited fictitious value if it is in a position to control, by delaying until a trial in Court can take place, any part of an important new building. The two grounds of the stereotyping of existing heights in all their inequalities and unmeaningness by private lights, and of the growth of making heavy claims which are met through fear of the delay caused, and not upon the intrinsic value of the light claimed to be damaged, justify consideration of desirable and practicable reforms in the law and procedure. A question first suggested is whether the abolition of the private right of restriction is equitable; and, secondly, whether it is practicable. In discussing the equitableness of its complete abolition, the author referred to the general safeguards provided by statutory regulation, and enumerated various exceptions existing by waiver or covenant upon the right by prescription, as tending to show that such conditions are not unduly harsh or restrictive, nor the property subject to them affected in value. A natural alternative to restriction or depreciation of the right to build, and one usually to be economically effected, is the simple expedient of enlarging the window or means of lighting the obstructed tenement. In discussing the possibilities of statutory reform, Mr. Pite referred to French, Swedish and Scotch law upon the matter, observing that any of those systems—the French of no property at all in light over another's land, the Swedish of registered agreement of any such charge of right of light, or the Scotch of the recognition of a right of light where the grant by consent or implication can be proved, but denying acquisition by prescription—would be an ideal worthy of sustained effort. If it could be realised considerable relief would be afforded to building operations in towns, and much pressure taken off the cause-lists of overworked judges. Mr. Pite then criticised the proposals contained in the report drawn up by the Institute science committee in 1893, and afterwards submitted to the London County Council with a view to their consideration in connection with the London Building Act, then passing through committee. Two reforms there suggested—viz. (1) of relief from impending dominant lights by a technical obstruction, and (2) of procedure by removal from the courts to three surveyors for award of all complaints—were, Mr. Pite considered, open to the objection that as legislation is required to effect them, it would be better to seek a more drastic method of dealing with the whole law of ancient lights, which Parliament could as easily accomplish, and which probably would avoid the necessity of any reform of procedure. The first suggestion would provide a new element of complication and conflict of doubtful advantage, the non-repeal of the Prescription Act in its application to lights insuring a still ample field for conflict. By the second suggestion this conflict was to be removed from the courts of law to a tribunal of surveyors. Were surveyors competent to try facts which must depend on the testimony of witnesses—title, history, user and the new technical obstruction, its fact, title and history, all having to be proved by evidence before the simpler technical matters could be reached? As the responsibility of remedy by legislation seemed remote something might be done apart from appealing to Parliament. The removal of some of the uncertainties and want of harmony in the decisions might be secured by the gradual recognition and establishment as a precedent of a readily applied system of measurement of obstruction; this would prevent many unreasonable claims, and deter claimants whose professional advisers could readily apply an accepted and customary rule to each case. It would strengthen and assist the building owner in resisting unreasonable demands, as well as of his architect in preparing the design for his building. In the consideration of the scientific application of measurement to the access of light over buildings to windows, the Institute would find a proper and fruitful field for investigation and useful public work. It was an inquiry which the experience and skill of many members made them peculiarly fitted to engage in. Having defined the form such investigation should take, the lecturer pointed out that a fuller study of the subject by architects must result in their being able to afford material assistance to the courts in hearing and deciding cases upon a more systematic and consistent basis. He was doubtful as to the propriety of urging alteration in the practice of the courts; but attention should be drawn to the beneficent effect of refusing injunctions, and granting money damages after trial Injunctions might be confined to cases where there is probable or possible evasion or contempt of the process of the courts. Further restriction than that provided by statute might be met by money compensation. Money damages for obstruction of light should be for proved damage, and *pro rata* diminution of rental, market or other value, or for increased cost of lighting. The effect of requiring proof of actual damage, of awarding money compensation and of refusing to delay by injunction, except in special cases, would be to deprive claimants of improper gain through delaying building operations, and afford on proof at trial proper compensation, the amount of which would bear relation to the injury done.

The President said they were all conscious of the importance of the papers they had heard, and they knew by experience how frequently injustice was attempted by claims which were a form of blackmailing. The Institute had had the matter before it, and he thought it would do well to bring the subject to a head. It might be ventilated at the Institute Congress to be held in June. Investigations of the law of ancient lights undertaken by the Institute had led to no definite result, but he, as President, would do his best to see that the matter this time did not drop. It was, he said, too important a question to be discussed at so late an hour, and it was therefore arranged that on April 9 a meeting would be held to further consider the subject.

Professor T. Roger Smith proposed a vote of thanks to the three speakers.

Mr. J. A. Strahan seconded the motion, which was carried unanimously. The meeting then terminated

NOTES AND COMMENTS.

As money is so liberally contributed towards the war in South Africa, it would be well if the general public would consider the fitness of applying a sum towards the representation of some of the incidents on canvas by able painters. Every day and every week there are no doubt an abundance of illustrations published, and the exhibitions do not exclude battle scenes. But in addition to those records, there is no reason why the conduct of the directors of the British Institution in 1816 should not be imitated. It was then proposed to give a large sum for sketches of the battle of Waterloo, or, in other words, that was the first step taken in a competition for a picture of the important event. In the following year the money was awarded. Cooper was given 150 guineas for his picture of the battle of Ligny, June 16, 1815, showing the dangerous situation and narrow escape of Blucher, when his horse was killed under him by a musket shot. Luke Clennell also obtained 150 guineas for his sketch of the overthrow of the French army at the battle of Waterloo. Two commissions were given, one to James Ward, R.A., of 1,000 guineas, for a picture from his sketch of the battle of Waterloo, which was to be an allegory, and one to G. Jones of 500 guineas for a picture from his sketch of the same battle. The Duke of Wellington, it may be remarked, preferred Jones's to any of the numerous pictures of Waterloo. The directors likewise announced their intention either to offer gratuities to those artists who produced pictures at their next exhibition which they would consider of sufficient merit, or to purchase them, or give commissions for painting them upon a larger scale for some public building. The British Institution has ceased to exist, and the balance which remained from subscriptions was converted into a fund to enable students of art to travel. The Institution undoubtedly rendered many services to English art, for it was a system of co operative patronage which produced generally most satisfactory results. It would be an advantage if a similar body of noblemen and gentlemen were now founded, for there could hardly be a more favourable time than the present or a more interesting duty than creating memorials of the Boer war.

At the present time speculation has commenced in the architects' offices in Paris, and especially those which are connected with the Ecole des Beaux-Arts, about the future winner of the Grand Prix. In all those competitions the law of chance has much to do with the final result. A student who has won a high place in the preceding year or years sometimes succeeds in gaining the prize, but in many years novices have been more fortunate than senior students. The students who have been selected in the first part of the competition are:—MM. Bégot, pupil of M. Laloux; Charles Duval, pupil of M. Pascal; Jean Hulot, pupil of M. Marcel Lambert; Lemaresquier, pupil of M. Laloux; Jaussely, pupil of MM. Daumet & Esquié; Jaumin, pupil of M. Esquié; Joseph Bernard, pupil of M. Pascal; Eugène Chifflot, pupil of MM. Daumet, Girault & Esquié; Carré, pupil of M. Pascal; Ernest Hébrard, pupil of M. Scellier, of Gisors. The problem is to anticipate the final verdict of the jury by selecting the winner.

The division of authority which is sometimes found in towns has given rise to a curious action which was tried last week in Edinburgh. Messrs. Gillespie are builders in Paisley and owners of property. They proposed to take down and rebuild some houses belonging to them in Wells Street. The Commissioners of Paisley and the Road Trustees both ordered that the building line was to be set back. The distance, according to one authority, was to be 25 feet, and according to the other 31 feet 6 inches from the centre of the street. The owners obeyed the authority which demanded most ground, and sent in a claim for 313 square yards, for which compensation was claimed. The arbitrators awarded Messrs. Gillespie 1,088*l.* When they sought payment an endeavour was made to calculate the area of the ground on the supposition that the line had been set back only 25 feet as was ordered, instead of 31 feet 6 inches as was also ordered. The reduced area thus became 288 square yards, the value being 848*l.* 3*s.* 1*d.* When the case was brought before the Courts it was held that the plaintiffs must be paid the full amount, and that the authorities would have to determine among themselves in what proportion they were responsible for it. There was an appeal, but the decision of the lower Court was upheld, and it was pointed out that if the authorities could not agree about the proportions in which they were to pay the money, it would be discreditable to them.

ILLUSTRATIONS.

WESTMINSTER ABBEY: CLOISIERS AND END OF SOUTH TRANSEPT. ENTRANCE TO CHAPTER-HOUSE. SHAKESPEARE MEMORIAL.

Everybody knows that the dust of Shakespeare is not to be found in any part of Westminster Abbey. But at a time when his works were not supposed to be generally admired it was felt that some memorial of him should be found in the building. Accordingly, in 1740 a public subscription was raised to erect one, and as William Kent, the architect of the old Admiralty, was then ready to undertake every sort of work connected with the arts, he received the commission. It is believed he prepared a design, and the execution of the figure was entrusted to Peter Scheemakers. It cannot be said the statue is a noble work of art or worthy of the Abbey, but there are many to be found there which are of an inferior character. Walpole wrote about it as follows:—"Kent's celebrated monument of Shakespeare in the Abbey was preposterous. What an absurdity to place busts at the angles of a pedestal, and at the bottom of that pedestal. Whose choice the busts were I do not know; but though Queen Elizabeth's head might be intended to mark the era in which the poet flourished, why were Richard II. and Henry V. selected? Are the pieces under the names of those princes two of Shakespeare's most capital works, or what reason can be assigned for giving them the preference?" It suggests that Walpole's patriotism was not genuine when we find him underrating "Henry V.," which forms an admirable substitute for an English epic, and "Richard II.," which is an interesting work for reading or performing. Scheemakers, the sculptor, was a Fleming, who travelled on foot to Rome in order to study art. He came to England in 1735 and set up in the artists' quarter, which was then St. Martin's Lane. He obtained much patronage, several other works by him being also found in the Abbey. He retired to Antwerp in 1769, and was succeeded by his son Thomas, who lived till 1808.

CATHOLIC CHURCH, WALWORTH.

The site for this church is an irregular one, and consequently requiring special treatment. It consists of a long nave with narrow aisles (merely passages) returned behind the altar at the east end to give access to the sacristies. At the west end the tower opens with a lofty arch directly into the nave. On the south side of the nave at the west end is placed the chapel and shrine of Our Lady of Ransom.

The style is an early form of Gothic architecture, severe and simple, depending for its effect on outline and form, ornament being only used sparingly. The interior consists of an arcade opening into the aisle passages, while above these running completely round the church is a band of mosaic (the only satisfactory material in a London atmosphere), and then above the clerestory the roof is barrel shaped without any panelling, thus increasing the apparent size of the building. Stone dressings are employed for arches, &c., and the walls plastered. The shrine chapel of Our Lady of Ransom will be vaulted, and the walls and columns, &c., are to be of granite (unpolished), while the walls of the apse will be covered with mosaics. As this shrine is to be erected by votive offerings a more expensive and richer treatment in the detail is permissible.

Externally the whole building is to be faced with stock bricks, and the strings and mouldings of Portland stone, the best materials for successfully resisting the London atmosphere. The architect is Mr. Benedict Williamson.

LEUTONHURST, NOTTINGHAM.

FERNLEIGH, NOTTINGHAM.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

The Works of Gibbs (*continued*).

(*Continued from page* 163.)

[It may here be stated that the succeeding article was being penned on the day that the eminent architect of whose churches it forms the subject was taken to his rest.]

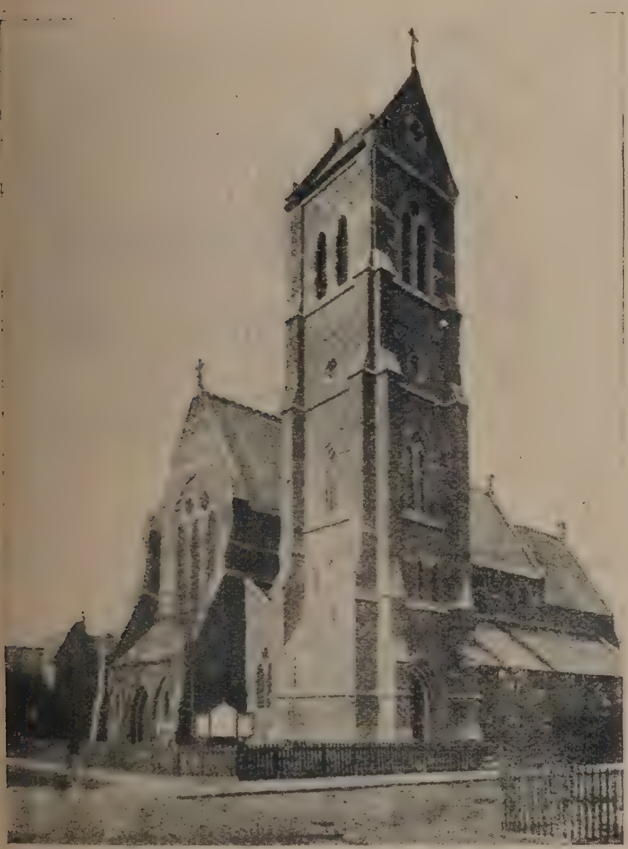
THEIR vitreous decoration disposed of, we may now proceed briefly to pass in review a few of the more interesting and striking features of this remarkable series of London churches * by the late Mr. Butterfield.

From the simplicity and sameness of their plans there is little to be remarked in the exterior of these churches beyond their great individuality and apparent oneness of purpose, and their steeples, this last feature—Mr. Butterfield having ever been fully alive to the importance of a striking piece of street scenery in localities so generally deficient in salient points—being most effective and original as well as varied in outline.

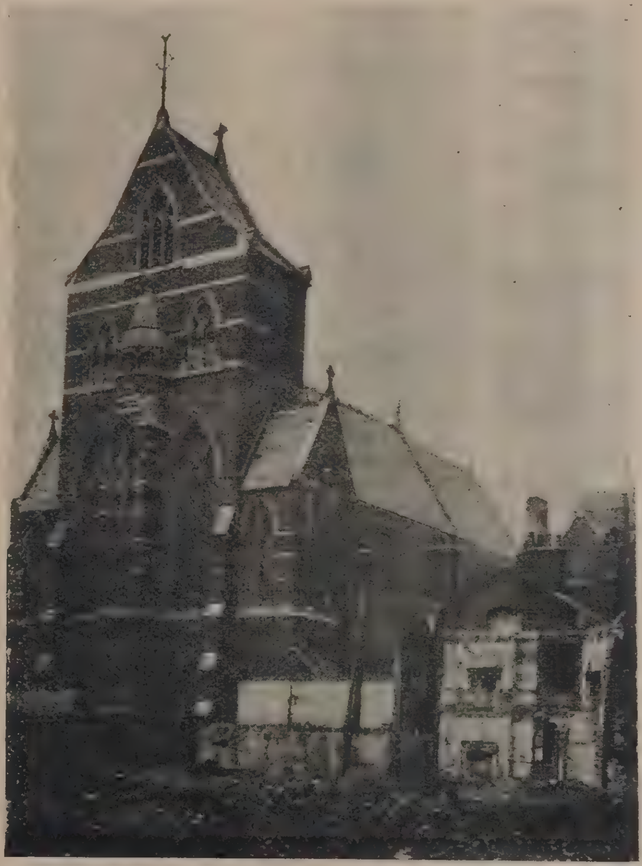
The nobility of effect attendant upon the "saddleback" ower rising at the east end of a narrow and lofty nave will be remembered by the visitor to St. Matthias, Stoke Newington. Such an experiment of 1853 was a bold one, but it was justified by its success, so much so that Mr. Butterfield was led to again try the resources of this peculiarly effective type of steeple under somewhat different conditions a few years later at St. Alban's, Holborn.

Here, however, rising as it does to no considerable height above the roof of the church, it may be regarded as forming a prolongation of the western façade rather than an actual steeple, for from the great breadth of the church it was of necessity made much wider from north to south than from east to west. This disparity the architect most cleverly masked by disguising the saddle-back termination to the belfry stage with a double pitch. The lower portion being flatter than the apex, a break occurs which, seen in elevation, relieves the sky-line, and this, taken in conjunction with the short western transepts and the noble three-light windows separated from one another by a staircase turret—square to a considerable distance, and then becoming octagonal—is an undoubted stroke of genius, helping as it does to compose one of the most majestic western façades produced since the Revival. Nor is the manner in which the architect gave character to the mass by judiciously-introduced bands of stone less worthy of admiration. For his "motif" he may have been indebted to some of the great Rhenish Gothic examples, such as St. Quirinus at Neuss, and the Colognese basilicas of St. Cunibert and the Holy Apostles, where it will be remembered a tower shoots up between short western transepts, forming within a species of gigantic constructional narthex.

The accompanying view of St. Alban's was taken nearly twenty years ago, during the demolitions consequent upon the widening of Gray's Inn Lane, and although it has been almost as completely built in again by five-storeyed "model" dwellings, the exterior of this church can now be studied under much more comfortable conditions than when Baldwin's Gardens and its adjacent purlieus were localities which struck terror into the minds of nervously-constituted ecclesiologists.



St. John Evangelist, Hammersmith.



St. Alban's, Holborn, from the S.W.

St. John's, Hammersmith, has also a gabled tower, forming in this instance a porch, but its construction did not take place until 1881, twenty-two years after the completion of the main fabric. It cannot be pronounced altogether a success, for gabling as it does north and south, it appears to turn its back on the church in a manner the reverse of agreeable. Probably the indispensable *matériel* towards a spire not being superabundant, Mr. Butterfield was fearful of committing either himself or his patrons, with the result that St. John's steeple is neither so stately nor so gracefully contoured as his two earlier productions.

At All Saints, Margaret Street, we were given a south-western steeple, forming in its lowest stage the baptistery, and somewhat ungracefully cut off interiorly by a solid wall pierced h arcading from the western part of the nave.

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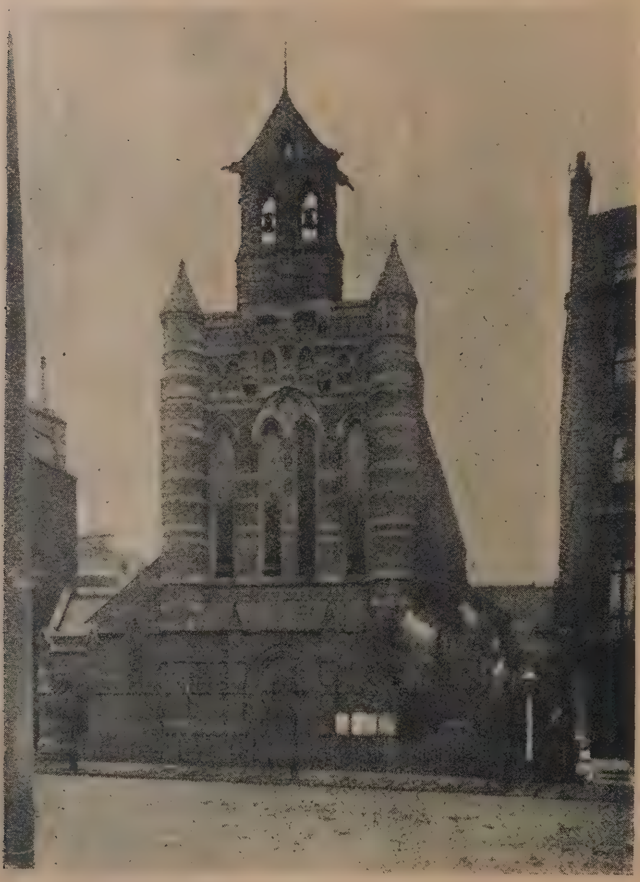
* All Saints, Margaret Street; St. John Evangelist, Hammersmith; St. Alban's, Holborn; St. Augustine, Queen's Gate; and St. Clement, City Road.

Differing as it did in shape, style and material from the broach spire of the imitative phase of the Revival, the novelty of this steeple at All Saints called forth—chiefly from the untravelled and illiterate—a torrent of hostile criticism, which, before many years had gone by, was exchanged for a long-drawn note of admiration; while by the frequency with which its type was copied, its imitators paid it the most unequivocal compliment, though it is doubtful whether in proportion and grace of outline it has ever been surpassed.

In the tower, which lifts its unbuttressed bulk to an enormous height, the treatment of the brickwork is as fine a work in conception as it is successful in execution, the belfry windows, and indeed the treatment of the tower generally, rivalling the celebrated Marien Kirche at Lübeck, though the ensemble is not so thoroughly German as the steeple of St. Andrew's, Stamford Street, Blackfriars, which was rising almost contemporaneously from the designs of Mr. S. S. Teulon, and where the tower is gabled on each side after the manner of such examples as Bremen, Soëst and Lüneburg.

At Margaret Street the lofty spire, of a beautiful silvery grey hue, and broached after a manner met with occasionally in the Midland districts, attains an altitude of 227 feet from the ground, affording a striking contrast to its conventional neighbour at St. Andrew's, Wells Street, both in form and material. Covered with slates and banded with metal, it is undoubtedly most felicitous, but only redeemed from the most severe austerity of outline by the coronal of projecting spirelets near the summit. Next to its steeple, the feature that rivets attention on the outside of All Saints is the considerable elevation of the chancel roof above that of the nave. Embodying reminiscences of such lofty German choirs as Freiburg im Breisgau, Breisach, Oppenheim, the Andreas Kirche at Cologne, Augsburg and the Johannis Kirche at Schwabisch-Gemund, in Silesia—though its adoption in those churches was most probably dictated by accident rather than design—this raised chancel at All Saints, occurring as it does just where the church becomes absorbed into the environing buildings, was undoubtedly a master stroke of genius on the part of Mr. Butterfield. It is, however, only one of the numerous instances in his works of those bold departures from ordinary types of form which, without overstepping the bounds of proportion, startle at first, but rapidly grow in favour upon a closer acquaintance. He saw the opportunity for the introduction of something out of the common way, and he seized upon it, the result being the production of a piece of work which, had it been the only one that we have received from the shapely hand of this accomplished man, would have been sufficient to rank him among the Wykehams and Waynfletes of past ages.



St. Augustine's, Queen's Gate.

St. Augustine's, Queen's Gate: View across Chancel
(*Before the Erection of the Screens.*)

The nave clerestory at All Saints is comparatively insignificant, while that of the chancel, with its large spherical windows enclosing circles on the motif of those in the northern transeptal clerestory at Hereford and the triforium at Westminster, is far more pronounced, but the architect's thorough knowledge of the laws which govern proportion saved the one from being overpowered by the other.

At St. Augustine's, South Kensington, Mr. Butterfield's acquaintance with the Gothic of Northern Germany and South-western France may in all probability have induced him to cast his west front either into the form of one of those strange square-topped screen façades that, with their flanking turrets, lend such character to Goslar, Brunswick and Magdeburg, or into that furnished by the huge quadrangular belfries of Villefranche, Montgiscard and Villenouvelle in the Haute Garonne, near Toulouse. Whatever its motif may have been, it forms an exceedingly striking piece of architecture in a thoroughfare that so exclaims for it, additional interest being lent by the manner in which—probably to secure strict orientation—Mr. Butterfield quite in the old spirit disregarded straight frontage.

St. Clement's, City Road, presents nothing very singular in the way of steeple. This deficiency is to a considerable extent atoned for by the piquancy with which the western bell-cote is invested, though in the opinion of many it is hardly dignified enough, considering the manner in which the building is hemmed in.

Recurring to the interiors of these churches we may proceed to notice a few of their salient points, commencing with that from which their chief character is derived—the nave elevation.

At St. Matthias, Stoke Newington, a sample of Mr. Butterfield's earlier and more chastened method, we find a typal English arcade of rather low Early Middle Pointed columns, alternately octagonal and quatrefoiled, supporting broad arches, and a lofty clerestory—devoid of vaulting shafts or arcading—with windows of three lights each having their tracery varied, and for which those in the choir of St. Albans Cathedral may have furnished the model. At St. John's, Hammersmith, where the style is not so advanced, the architect gave us a rather uninteresting series of arches on cylindrical columns with severe-looking bell-shaped caps, the two-light clerestory windows, not of lofty dimensions, being placed in pairs and incipiently traceried. The All Saints, Margaret Street pillars are of an Early English type, and composed of eight slender shafts of Peterhead granite disposed around a cylindrical core—pillars, the boldly massed leafage of whose capitals carved out of alabaster was so highly praised by Mr. Ruskin. The introduction of an earlier type of column into a church whose date, if ancient, would be fixed during the first decade of the fourteenth century, was singular, but it may be attributed to the difficulty of carving granite into the complex section of a full-blown Middle Pointed one, this being a material more patient of being turned in a mould.

The graceful series of Portland stone columns composed of eight amalgamated shafts separating the nave from its aisles at St. Alban's, Holborn,* have capitals moulded in the same material and carry arches, equally graceful reproductions of Early Middle English work. In the clerestory, where the architect treated his brickwork with consummate skill, arranging his windows in couples of cinquefoiled lancets seen through arcades borne on slender shafts of terra-cotta, just the requisite amount of natural polychromy was obtained at a comparatively small expense, but the hook-shaped corbel, from which the shafts supporting the main ribs spring, and which was probably modelled on an example in Broadwater Church, Sussex, is perhaps more curious than beautiful. Later on Mr. Butterfield appears to have discarded the complex type of pier in favour of the simple cylinder, as evidenced in St. Augustine, South Kensington; St. Clement, City Road; St. Mary Magdalene, Enfield, and those two imposing fragments, the naves of his churches at Dartmouth Park, Highgate, and Edmonton.

At St Augustine's the nave arcade, borne on stout circular piers of red and white stone in alternate blocks, is most grandiosely dimensioned, a peculiar feature being the introduction within each spandrel of an immense quatrefoil, the effect of which until the application of colour to the surface was overpoweringly heavy. At St. Clement's, City Road, the single row of simple columns and arches, though dignified, does not call for special comment.

The subject of nave arcades leads to the consideration of a feature in the churches built by Mr. Butterfield impossible to be overlooked, *i.e.* the internal narthex or space left within the most westernly bay into which he invariably caused his porches to open, and concerning which the following passage in a letter to the writer of these papers may be quoted here:—"It has by this time been forgotten that the Camden Society looked with no favour on my placing the entrance porch in the western side bay. I had to persist in it against their criticisms. But I could not endure the cutting a congregation in two by a porch halfway up the side, and I had other reasons."

What these were may be guessed with tolerable certainty by those who have Mr. Butterfield's churches in mind. A feature to be admired and adopted whether from an utilitarian or æsthetic standpoint—though when viewed externally the porch projecting a short distance up the aisle undoubtedly assists in imparting additional variety and picturesqueness to the outline—it exists in all the architect's London works save one, but under different forms. From the writer's own experience the presence of this western unbenched bay, especially in a large town church, is on various grounds a matter of congratulation. By it late comers or early goers (alas! that there should be either) can enter or leave church with the minimum of noise or distraction to their fellow-worshippers; it gives "ample verge and room enough" for that now so generally accepted and appreciated function in the services of the Church of England—the procession. It can easily be chaired when the seating accommodation of the church is overtaxed, and it imparts that appearance of spaciousness and unencumbered area which we too often desiderate in churches where the benching is prolonged up to the very west wall.

At All Saints, Margaret Street, hampered as he was by conditions of site, Mr. Butterfield was unable to introduce this feature. At St. Matthias, where it may perhaps be seen under its most favourable condition, and at St. John's, the most westernly bay is not only slightly narrower than the rest, but differs in construction, separated as it is from the others by a pier instead of a column.

Less spacious, from exigencies of site, is the narthex at St. Alban's, Holborn, where it is thrown into the short western transepts, on the motif of Noyon or Peterborough, or St. Cunibert and the Apostles churches at Cologne, being distinguished from the nave by an arch of noble dimensions. This rising almost to the same height as the building (80 feet) forms, in conjunction with the unglazed triforium stage that surmounts the acutely-pointed arch opening into the transepts in continuation of the nave arcades, and the two large geometrically-traceried windows lighting the western façade, an architectural composition of unusual majesty.

At St. Augustine's the narthex arch is very narrow and lancet-shaped, but the manner in which it springs from a massive circular pillar and respond is exceedingly striking. In the other examples this unbenched western bay is segmental-headed, and dies into a square pier in lieu of being brought down on to a respond.

(*To be continued.*)

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* The weather of late militating against indoor photography, some views of this remarkable edifice are deferred to another issue.

EXCAVATIONS IN THE FORUM.

In a letter to the *Times* Mr. Richard Norton writes:—Considering that every one who has more than a superficial acquaintance with the archæology of Rome agrees with Mommsen that my good friend Professor Lanciani is far more conversant with this subject than any other Italian, it was perhaps rash of me to suggest that he had made a mistake concerning the Sacred Way. But even the great gods sometimes nod.

Possibly my idea concerning the question may have been due to a misapprehension of Professor Lanciani's printed words. In his letter published in your issue of February 28 he says:—"In my last volume on 'The Ruins and Excavations of Ancient Rome,' pp. 181 and 206, I have distinctly stated that the course of the Sacred Way underwent at least three changes in Imperial times," &c. Page 181 of my copy of the book referred to is covered with a picture and three lines of print concerning the view from the Palatine. Page 206 deals with the Basilica of Constantine, and has only an incidental reference to the Sacred Way. As the index to the book is not perfect, I cannot be sure that I have noted every reference to the bit of road under discussion, but on page 208 is a passage concerning the Clivus Sacer. One reads:—

"The Clivus Sacer, or gradient of the Sacra Via by the Basilica of Constantine (Plan No. XI.).—This tract, excavated between March and June 1878, is the noblest and widest of the whole line. It measures 23 metres across from building to building and 12·35 metres between the side walks. . . . The left side pavement . . . (is) entirely encumbered by monuments in honour of different people dating mostly from the time of Septimius Severus and his successors."

In his letter, however, of February 23, Professor Lanciani says:—

"This noble avenue, this Sacred Way of the late empire (its classic name was certainly not changed by Maxentius), this witness of the last three centuries of Roman life, measured 23 metres across from building to building, and 12·35 metres between the side walks. The one running along the Porticus Margaritaria is 8·20 metres wide and encumbered by many monuments, such as fountains, hemicycles, excubitoria, &c.—all post-Maxentian—mixed up with older relics (altars, pedestals, shrines), which must have been raised to the new level."

In his book Professor Lanciani dates the monuments along the road by Septimius Severus; in his letter he calls them "post-Maxentian." The difference is one, at least, of a century.

I absolutely agree with Professor Lanciani that the "process of suppressing one archæological stratum for the sake of another is rather dangerous." If one is willing to call the modern Via di S. Theodoro the *Vicus Tuscus* and the modern stairway leading past the Temple of Concord the *Scalae Gemoniae*, one will naturally call the late (in parts modern) road of which I spoke the Sacra Via. The "noble avenue" in front of the Basilica of Constantine had no more to do with the Sacra Via than the two other modern thoroughfares have to do with the ancient ones the names of which I have mentioned. The modern line follows in a general way the ancient, that is all. The "noble avenue" was not even Maxentian in date. My reasons for this statement are:—

The rut marks were at all sorts of angles, showing that the paving blocks had been, at least, reset.

Below these blocks were found bits of carving that cannot be dated earlier than the ninth century, A.D.

Below these blocks and paved over by them was a Mediæval well containing many architectural bits, some also of about the ninth century.

Below these blocks were found several large fragments of the porphyry columns of the south portico of the Basilica of Constantine. This portico, moreover, was not part of the original design of the basilica as built by Constantine and Maxentius, but was a post-Maxentian alteration.

These blocks covered part of a wall that from its technique can scarcely be earlier than the tenth century.

Below these blocks was found a coin of one of the della Rovere Popes.

Some 6 feet below these blocks was found a polygonal paving of the same general style as the piece in front of the Temple of Saturn—a paving belonging to the time when the road was truly a Sacred Way.

The preservation of an archæological stratum later than the ninth century at the expense of hiding the earlier and truer Rome may be of value, but a value approximately equivalent to that of the archæological stratum made by some of the earlier excavators out of metopes of the Basilica Aemilia (referred to in my first letter), or to that of leaving the Temple of Vesta encumbered with a mass of loose dirt, or to that of leaving uninvestigated a blocked up but very visible doorway, behind which was a hoard of gold coins in the Atrium Vestae and leaving very fine marble floors in the same building under a few inches of dirt. Such were the archæological strata left by the last excavators. As Emerson says, "Tastes differ."

THE TEMPLE OF HERA AT ARGOS.

At the Royal Institution on the 15th instant Dr. Waldstein gave the third and last lecture of his course on "Recent Excavations at the Argive Heræum (in Greece)." Beginning with a short reference to the development of Hellenic art, he emphasised the fact that to the Greeks the world owed the picture and the statue, not as serving mere ancillary functions of decoration, &c, but as made for their own sake alone, without question of use or ultimate purpose. Going on to compare the characteristics of Polyclitus, of Argos, with those of his older contemporary Phidias, the lecturer quoted Quintilian's criticism that the former displayed great finish and feeling for formal beauty, but was wanting in the grandeur of thought found in the latter. Illustrating next the square and massive canon of proportions adopted by Polyclitus, and contrasting his style with that of some later sculptors, he gave some particulars of his famous statue of Hera in the Argive Heræum—a huge figure of gold and ivory seated on a throne. An idea of its appearance was obtained from Argive coins, and many attempts had been made at its identification, but he claimed that he had had the good luck to find in the British Museum a figure previously thought to be a bust of Apollo, which, though of late Roman date, was still a distinct and definite reproduction of that type of Hera. Returning to the site of the Heræum he discussed the sculptures that formed the decorations of the second temple, and showed pictures of the architectural fragments which he had excavated. In these he thought it obvious that we had the art of Polyclitus, whose relation to the Heræum was the same as that of Phidias to the Parthenon. Some of the architectural work was unsurpassed in delicacy and finish of modelling by any piece in the Parthenon, and as a proof of the naturalistic truth exhibited in the sculpture he mentioned that in one of the torsi he discovered a muscle which his anatomical friends pronounced an anomaly, but which had since been found to be developed in professional athletes. Contrary to what seemed to be implied by the description given by Pausanias, he argued that the temple must have had pedimental figures, and, showing several well-preserved heads both from the pediments and the metopes, he maintained that the art possessed the characteristics of the Polyclitan style and was not Attic, as had been suggested by Professor Furtwängler. Finally, he showed a head which, whether it was of Hera or not, he thought was the best preserved specimen of fifth-century art that had come down to us.

THE CATACOMBS IN ROME.

The secretary to the Commissione di Archeologia Sacra, Mgr. Crostarosa, has issued from Rome an appeal to archæologists and to all those who are interested in Christian antiquities to subscribe towards the further exploration of the catacombs. These monuments, which are of the greatest historic importance to Christianity and so vast in extent that they form an underground city, where places of pilgrimage for Romans and strangers till the ninth century. But from the ninth century until the nineteenth the catacombs were neglected, the entrances were blocked and in time hardly a site was remembered. In the sixteenth century a pioneer was found in the person of Bosius; but it was not till the present century that a new world was laid bare to the student by the excavations of De Rossi, who rediscovered the great cemetery of Callistus, and opened, or partially opened, several of the principal historic catacombs, making discoveries which exceeded all expectations in their interest to the antiquary, the liturgist and the theologian. The chief catacombs on the Appia, Nomentana, Salaria and Ardeatina are open, but are not completely explored; of the forty-five cemeteries about five only are permanently accessible to the visitor to Rome. After the death of De Rossi, the Commission of Sacred Archæology continued the excavations with excellent results. The work of De Rossi had been encouraged and aided by Pius IX., who willingly entered into the former's plans for excavating, and provided the money. Leo XIII. has continued this generous aid, but the means at the disposal of the commission are inadequate to the great task still to be performed. "Notable discoveries of the greatest importance to history still await us," says Mgr. Crostarosa. "The commission hopes that it may be enabled to carry out some of these in the course of the current year; and appeals to the generous of all nations to assist in work—arduous and costly as it is—the results of which cannot but prove in the future, as they have proved in the past, of the first value to the Christian historian and the archæologist." Those interested are requested to apply for all further information to Mgr. P. Crostarosa, Via del Quirinale 24, Rome, secretary of the commission."

ARCHITECT'S FEES.

An extraordinary amount of local interest, says the *Chester Chronicle*, was manifested in the case of Jones *v.* Montgomery, heard before Mr. Justice Bucknill and a jury in the Nisi Prius Court of Chester Assizes. It was an action by Mr. Arthur E. Jones, architect, Old Bank Buildings, Chester, to recover 207*l.*, charges and commission in connection with the rebuilding of the King's Head inn, Grosvenor Street, Chester, and the Grotto inn (formerly known as the Harp and Crown), Bridge Street, the defendant being Mr. Thomas Montgomery, managing director of the Lion Brewery Company, Chester. The defendant not only denied liability, but denied that he had instructed plaintiff to prepare the particular plans in question, and further counterclaimed damages because of plaintiff's alleged negligence and want of skill.

Mr. F. Marshall, Q.C., said it appeared that Mr. Jones received instructions in October 1898 to prepare plans of alterations contemplated in the King's Head hotel, and plans for rebuilding the Grotto, the outlay in the case of the King's Head to be 1,500*l.*, and in that of the Grotto 2,500*l* Mr. Jones, by Mr. Montgomery's instructions, prepared plans to be submitted to the Chester improvement committee and to the licensing justices. Mr. Jones attended before the committee and before the justices, and the plans were approved. The plans of the King's Head were approved at once, and those of the Grotto after an adjournment consequent on the objection of Mr. Spencer, owner of adjoining property, that he had not had an opportunity of inspecting the plans. Afterwards Mr. Jones got estimates from the builders. Two builders sent in their tenders to Mr. Jones, and one, Mr. Forester, to Mr. Montgomery. It subsequently transpired that instead of spending 1,500*l.* on the King's Head, defendant decided to spend only 700*l*, and instead of 2,500*l.* on the Grotto only 1,500*l.* The builder chosen for the work at the Grotto was Forester, an undischarged bankrupt, and instead of the work being done in stone according to the approved plans, it was done in brick, and looked like a big mustard pot, and was certainly not a building of the kind that ought to be put up in a city like Chester. Mr Jones, displeased with the selection of a builder, and with the repeated deviations from the plans, threw up the work, and now claimed for his services up to that point.

Plaintiff gave evidence at considerable length.

In cross-examination by Mr. Moss, M.P, he said the plans that had been approved provided for a substantial building, but he found that the work was to be carried out in a shoddy manner, and if he had gone on with the work under those circumstances he could never have faced the licensing justices and the improvement committee with plans again.

Mr. James Strong, architect, of 11 Dale Street, Liverpool, gave evidence to the effect that the plaintiff's charges were fair and reasonable.

George Henry Davies, draughtsman in the employ of Mr. H. Beswick, Chester, deposed to assisting plaintiff in preparing several sets of tracings, the workmen's working tracings, and in the case of the Grotto ½-inch and ¼-inch scale elevations. He remembered Mr. Jones receiving the tenders for the King's Head. The King's Head was about the most difficult building in Chester to survey because there were so many angles; there were hardly two square walls in the place. The work would take over a week.

Gerald Moore, formerly employed by plaintiff, stated that he remembered plaintiff working on the plans and quantities for both buildings. He assisted him in the quantities, and got out the forms of tender, and took them round to the builders. Three tenders were sent in. Mr. Forester did not send in his tender to Mr. Jones, but called on Mr. Montgomery about four days after the expiration of the specified time. Mr. Montgomery and Mr Forester called at Mr. Jones's office, and plaintiff being out at the time Mr. Montgomery told witness to tell him to go down to the brewery at once with the other tenders as he had got Mr. Forester's there. Mr. Jones went to the brewery with the tenders. Before this he (witness) had been to Mr. Forester several times to ask him to send his tender in. Mr. Forester asked him who the other tenders were from, but he declined to tell him.

Emanuel Smith, surveyor, St. Werburgh Street, Chester, said he had seen the plans prepared by plaintiff, and examined his charges. In his opinion they were very reasonable.

Mr. J. H. Laybourne, chief constable of Chester, stated that he was at the Chester City Police Court in January 1899, when Mr. Reynolds, on behalf of Mr. J. W. Montgomery, applied for permission to extend the King's Head and the Grotto in accordance with certain plans laid before the justices. Mr. John Thompson, presiding magistrate, asked how much was going to be spent, and Mr. Reynolds referred him to the architect. Mr. Jones said the King's Head would cost about 1,500*l.*, and the Grotto 2,500*l.* The defendant's firm were asking a concession from the magistrates. By taking in a watchmaker's shop, a basket shop and an oyster shop, and bringing the inn down to the street level they were extending their premises, which would be a material benefit to the owners. They were also extending the King's Head by including a bicycle shop. A provisional license was granted for the King's Head, but because there was an objection to the Grotto by Mr. J. H. Spencer, chemist, this application was adjourned. At the annual licensing sessions in August he (witness) objected to something in connection with another house. The presiding magistrate mentioned to Mr. Reynolds that he had heard a rumour that the Brewery Company were going to spend on the King's Head only a third of the amount they undertook to spend when the application was made and the plans passed. The reply was that they were going to spend a large amount of money; he did not think any amount was mentioned. At that meeting three other licenses of the same firm were adjourned because the plans deposited with the magistrates had been deviated from.

Mr. Moss: You know they are bound to spend a large sum of money under the lease?

Witness: I have never seen their lease.

Mr. Moss: Are you speaking of these sums of 1,500*l.* and 2,000*l* from memory?

Witness: Certainly.

His Lordship (to witness): Does it often happen that authorities desiring to obtain concessions from the magistrates make suggestions that large sums of money will be spent and afterwards deviate from them?

Witness: Yes.

His Lordship: That trick is tried on sometimes?

Witness: There is no doubt about it.

His Lordship: What happens then?

The Chief Constable: The matter comes before the magistrates when they are asked to make the final grant of the license.

Mr. Moss, on behalf of defendant, submitted that there was no case to go to the jury. The plaintiff sued for work done in accordance with what he said was a contract between himself and the defendant. He had to prepare plans, superintend the work and see it completed on a commission of 5 per cent. plus charges for surveys and so on. If that was so plaintiff could not sue until the work had been completed. That was decided in the case of Johnson *v.* Gandy. Plaintiff had not completed the work in this case because he did not like the builder. He also admitted that he had supplied no complete set of plans and no specifications, and that being so he was not entitled to recover.

His Lordship said he was against counsel on that point because he was of opinion that there was no evidence that defendant was the person who prevented the work originally contemplated and contracted for being carried out.

Mr. Moss then submitted as another objection that plaintiff had admitted he was not instructed to prepare quantities.

The Judge said that was not a question of law but a question for the jury.

Mr. Moss said there were three things to consider: first, whether there was a contract at all; secondly, if there was, had it been broken; and in the third place the counterclaim against plaintiff for damages on account of delay and unskilfulness, and what they contended was a breach of the agreement by him. When defendant made arrangements with this young architect—he was engaged more as a compliment than anything else—he adopted the same course as he invariably adopted. He told him what the cost would be, and he told him he did not require quantities. Mr. Montgomery had never had quantities prepared by an architect in connection with the vast number of buildings he had erected, and it would be a singular thing if on this occasion he had departed from the practice he invariably pursued. He should not only call Mr. Montgomery, but his brother, Mr. J. W. Montgomery, who was present at the interview between plaintiff and defendant, when it was stated that 500*l.* was the amount which Mr. Montgomery under the lease had to spend on the King's Head, and that upon the Grotto he was not going to spend more than 1,500*l.* It seemed a most extraordinary thing that throughout the whole correspondence Mr. Jones should never once refer to the arrangement. With regard to the quantities, they said emphatically they never ordered the quantities, and never saw them until they were produced in connection with this trial. The contract had been broken by plaintiff in about as complete a manner as it was possible for any man to break a contract. Plaintiff, in cross-examination, admitted that he had not prepared and supplied the defendant with a complete set of plans. It was admitted that the 2½ per cent.—first of all 5 per cent.—included a complete set of plans and superintendence. If the work was not carried out then the architect was entitled to charge 2½ per cent. upon the complete set of plans and specifications. But the architect having failed to supply either plans or specifications or to superintend the work could not recover 2½ per cent. upon any amount. This was not from any fault of the defendant's, but because plaintiff did not like the builder. As a matter of fact the buildings had been erected in accordance with the plans prepared by Mr Jones at a cost upon which they wanted to pay Mr. Jones, and in respect of which he declined to go on with the work. Mr. Jones took the "huff" in the most unjustifiable way. They had paid 91*l.* 9*s.* in respect of the claim of plaintiff. In spite of almost imploring letters Mr. Jones delayed his work, and they now claimed damages for negligence and also unskilfulness.

Thomas Montgomery, brewer, stated that in July 1898 his brother, Mr. J. W. Montgomery, introduced to him the plaintiff in this action, and asked him if he could see his way to give him something to do as he was a young man starting in business. In October 1898 he made an appointment, and went over the King's Head with Mr. Jones, and asked him to make a block plan so that he could show him the character of the alterations he desired. He had a twenty-one years' lease on the house, and the rent was 200*l.* They went on to the other house, and he told Mr. Jones they would have to put up a new building there, so he would have to prepare a block plan of that too. He saw plaintiff after he had got out a block plan of the King's Head, showed him what he wanted, and told him he was tied under the lease to spend 500*l.* on the structural part of the building.

The Judge: You could spend more than that if you liked?

Defendant: Yes.

Defendant (continuing) said he told plaintiff that 500*l.* was to be the limit to be spent on the structural alterations, and that he should spend 200*l.* inside. Plaintiff said nothing in reply. When they got to the Grotto he told plaintiff to be careful not to go above the height of the old building, but plaintiff proposed a three-storey building, and said it would be all right. When the plans went before the bench Mr. Spencer objected. In discussing the cost he (defendant) told plaintiff there could be a very substantial building for 1,500*l.*, but plaintiff said "Oh, no." He (defendant) added, "I don't want to throw anything away. I want you to cut out everything expensive. I want a plain building, and anything I can spend extra I will spend on the decorations and fittings." Plaintiff made no reply.

The Judge: Then you didn't tie him down to any particular figure?

Defendant: No.

Defendant said he undertook to pay plaintiff 5 per cent. on the money spent on the buildings, but he did not think he ever got any definite cost from Mr. Jones, though he always said they would exceed his estimate. He never received specifications nor a complete plan from plaintiff. He was erecting the new building at the Grotto from the tracings, and the cost would not exceed 1,500*l.* Of course they could spend 4,000*l.* on the Grotto if they liked to build it of marble or granite. With regard to the King's Head, Mr. Tomkinson, of

Liverpool, was doing that, and the cost would be under what his estimate was.

Mr. Marshall: How much?

Defendant: It will be under 700*l.*

Defendant said he told plaintiff that he did not want to build ornaments, but places that would show a revenue. Plaintiff then said he would have nothing more to do with it.

Cross-examined by Mr. Marshall: You suggest that you employed plaintiff because you thought he was a rising genius or something of that sort; did you happen to know his father was a member of the improvement committee of the Town Council?

Defendant: I did hear it, but it really never struck me.

Mr. Marshall: But it is a coincidence, isn't it, that his father was a member of the Corporation?

Defendant: I don't see that his father would be any benefit, because I was benefiting the Corporation by what I was doing.

Mr. Marshall: If you wanted your plans passed by the improvement committee, you didn't think it would be a benefit?

Defendant: No; there was nothing the improvement committee could object to.

Defendant said he had not had the bills yet from the builders. He did not remember Mr. John Thompson, chairman of the city bench, in August directing attention to a rumour that they were only going to spend a third of the money promised when the first application was made. If he had heard the chairman name a certain sum he did not intend to spend he should have told him.

Mr. Marshall: Do you suggest that the cause of the delay in proceeding with the work was the inability to get these specifications?

Defendant: Quite so.

Mr. Marshall: And nothing else?

Defendant: And to the plans.

Mr. Marshall: Do you know that Mr. Reynolds explained to the Court that there had been a delay in getting the lease through?

Defendant: They were waiting for the plans.

Mr. Marshall: Not a word of that was said by Mr. Reynolds; it was the lease.

John Wm. Montgomery, a director of the Lion Brewery Company and resident manager, stated that in July 1898 he had an interview with the plaintiff, and was instrumental in introducing him to his brother. He was present at the interview in reference to the buildings in dispute, and heard his brother say he was not going to spend the amount of money he had been in the habit of spending on buildings. He said he thought 500*l.* would be quite sufficient for the King's Head and 1,500*l.* for the Grotto. Mr. Jones, when asked what his charges would be, said, "The usual 5 per cent." The defendant said, "That will cover everything?" and plaintiff replied "Yes, everything." No mention was made of estimates and quantities. In connection with the Grotto there was a difference of opinion as to the timber to be used in the wood-work, and Mr. Jones said, "I want to put oak in and show what I can do. I have never had a job in a front street before." Witness called fifty or sixty times at Mr. Jones's offices, and never could find him in. He was present at the police court on January 4, and did not hear any amount mentioned by Mr. Jones other than the 500*l.* they were bound to spend under the lease.

The Judge: Were the magistrates led to believe that the work on plaintiff's plans could be done for 500*l.* in the case of the King's Head?

Witness: I should think so. Witness admitted that the chairman in August alluded to a rumour, and Mr. Reynolds said they were going to spend a large sum. Plaintiff threw the job up because he did not want Forester. He was biassed against the man all through. Up to the present time the actual cost of the Grotto had been between 800*l.* and 900*l.* Witness denied the story of the boy Moore, and said he never saw the tenders.

Mr. Tomkinson, builder, Liverpool, stated that the King's Head alteration would cost about 700*l.* in accordance with the plans. He admitted it would be only a "patch up job." He meant it would not be a new building.

George Forester, builder, Chester, stated that when he submitted his tender for the Grotto he put it in Mr. Jones's letter box. He did not go to Mr. Montgomery's or show Mr. Montgomery the quantities. Mr. Montgomery asked him to get a specification, as he could not get one from Mr. Jones, and he prepared a rough one himself after having instructions from Mr. Thomas Montgomery. His tender was accepted, and it was agreed that he should be paid weekly. He got the materials and defendant gave a guarantee. The cost of the Grotto work would be about 1,400*l.* His specification was lost two or three months ago, since which he had been working by word of mouth.

Mr Slater, architect, Wrexham, stated that the alterations at the Grotto carried out in accordance with the plan he had seen should not exceed 1,600*l.* He thought the structural alterations at the King's Head should be carried out for 600*l.*

H. S. Whalley, F.S.I., Chester, thought the King's Head could be surveyed in a day at a charge of 1*l.* 1*s.* per day for a surveyor, and 10*s.* 6*d.* for an assistant to hold the tape. The five guineas allowed was a very ample sum, and the same sum was a very liberal fee for surveying the Grotto.

Charles W. Blease, of the firm of Poyne & Blease, architects and surveyors, Liverpool, stated that an architect was not entitled to receive the 2½ per cent. until a complete set of plans and specifications had been supplied.

By Mr. Marshall: The part coloured yellow on the plan indicated stone-work not brick.

G. H. Reynolds, of the firm of Royle & Reynolds, solicitors, Chester, deposed to making the application to the city justices for provisional licenses on January 4. He had no recollection of any amount being mentioned as the probable cost. As a matter of fact he did not think anybody could possibly know then what the cost was going to be. He was present in court also in August when one of the magistrates made the observation they had heard. He thought it was Mr. Gilbert who said he had heard that the owners were not going to spend as much on the King's Head as was at first suggested. He (Mr. Reynolds) said his client was a lessee, and under his lease was obliged to spend 500*l.*

Cross-examined by Mr. Marshall: It is pretty clear the chairman had some recollection of a definite sum being mentioned in January, and after hearing what the chief constable of Chester has said to-day, are you prepared to swear that no sum was mentioned?

Witness: I would not like to swear it was not, if the Chief Constable says it was mentioned.

Mr. Marshall: You heard him say on his oath that two sums were mentioned—that the question was asked, that you appealed to Mr. Jones, and that Mr. Jones stated 1,700*l.* in one case and 2,500*l.* in the other. In the face of that are you prepared to say that no such evidence was given?

Witness: I recollect nothing about it, and it is not confirmed by the newspaper report.

Mr. Marshall: In the face of that evidence are you prepared to say that such evidence was not given?

Witness: I have no recollection of it. That is all I can say about it. If any sum was mentioned it would be simply a random remark of Mr. Jones's, and nothing more.

Mr. Marshall: The extension of the license that was asked for in the case of the Grotto was a very important one, and would it not be an important matter that the magistrates should be shown that the contemplated expenditure would be considerable?

Witness: I don't think the magistrates care what the expense is. All they want is that the plans are satisfactory.

Mr. Marshall: Do you suggest that the magistrates do not care whether it is a plaster erection or such a building as befits the modern architecture in the streets of Chester?

Witness: I say the magistrates don't go into the question of price. They pass the plans and there is an end of it.

Mr. Marshall: Don't they care whether it is a cheap and nasty building or a good substantial house?

Witness: We should not like to put up a cheap and nasty house.

Mr. Marshall: Well, then, price is an important consideration?

Witness: The Bench expect the plans to be carried out in a proper way.

Questioned as to the brick instead of stone as shown on the Grotto plan, Mr. Reynolds replied: I don't think the magistrates would care a straw whether the building were to be of brick or stone, and added that they simply went before the Bench with their plans as a matter of courtesy. It was not a question of the license.

Richard Cecil Davies, surveyor, Chester, said he was engaged by the Wilderspool Brewery Company, owners of the Old Vaults, to measure the dimensions of the old and the new Grotto for the purpose of preventing any encroachment on the lights. The new Grotto exceeded the height of the old building, and affected the light by six degrees, but there was an improvement made in the street, and the matter was settled on the payment of costs by the defendant's company.

In cross-examination witness said he had made a survey and valuation of the King's Head for a purpose outside this case, and his fee was 10*l.* 10*s.*

Mr. I. Matthews Jones, city surveyor, said the defendant agreed to give up about 2 feet for the widening of Commonhall Street, but when he went to inspect the progress of the work this undertaking was not being adhered to, and he found that it was not included in the working plan or on the plan deposited with the Corporation. After attention had been directed to the matter the 2 feet were given up.

The Judge commenced to sum up, when one of the jurymen had a fit, which caused a painful scene in court. He was removed, and after some delay the parties agreed to take the verdict of the remaining eleven jurymen, and the Judge proceeded. He pointed out that the real question at issue was not whether plaintiff was entitled to recover for work done, because the work had not been completed, but whether he was entitled to damages for being prevented from carrying out work which he was engaged to do under the contract.

The jury after a short retirement returned into court with a verdict for plaintiff on the full amount claimed—207*l.*, less 71*l.* 9*s.* already paid to plaintiff.

His Lordship, replying to Mr. Marshall, said there was no evidence at all on the counterclaim.

GLASGOW ARCHÆOLOGICAL SOCIETY.

THE monthly meeting of the Glasgow Archæological Society was held on the 15th inst. in the Society's rooms, 207 Bath Street, Dr. David Murray in the chair.

Mr. P. Macgregor Chalmers gave an address on "The Stones in Govan Churchyard." He exhibited his drawings, which had been made seventeen years ago, and illustrated his paper by many photographs and lantern views. The description of the stones followed the arrangement in the beautiful book of illustrations recently published by Sir John Stirling Maxwell, Bart., M.P. Govan Church, along with the land of Perdeye, Mr. Chalmers said, was erected into a prebend of Glasgow Cathedral soon after the dedication of the cathedral in 1136. The church at Govan was dedicated to Constantine, who is said to be king of the Britons. Having resigned his crown, he came to Scotland and converted Kintyre, and died in the year 588 He is said to have suffered martyrdom and was buried in his monastery at Govan. Whilst no fragment of the early or the Mediæval church had been preserved, it is an interesting fact that the fortified mound of earth upon which the local ruler lived was in existence up till a few years ago. This was called the Hillock. At the end of last century it was called the Doomsterhill. It was a mote, and its site was in or about Messrs. Mackie & Thomson's shipbuilding yard, close to the present Hillock House. The mote would be built about the time of the dedication of the cathedral, when probably a new church was built at Govan. If neither the church nor the mote remain, the sculptured stones are valuable treasures and records of early Christian times. Four of the stones were free, standing and erect crosses. What was perhaps the church cross is now greatly wasted, having been allowed to lie prone on the ground, but two of the sculptured panels can still be deciphered—Daniel in the lions' den, and Christ giving His commission to the Church in the form of the Gospel and the keys. It is unfortunate that the most elaborately ornamented cross has been removed to Jordanhill. It ought to be in the churchyard and in the possession of the Govan heritors, and it is hoped that ere long it will be returned. One of the cross shafts has an ornamental cross carved on its face, protected by two twisted serpents with their tails in their mouths. The serpent (so designed) was the symbol of perpetual union. Two animals supporting or protecting the sacred emblem have been found engraved on stones attributed to the school that flourished 4000 years B.C., and unicorns protect our national emblem at the present day. There is a very large sun symbol composed of four sun snakes on the back of this cross. The presence of this symbol does not imply that the Christians worshipped the sun. Their thoughts, as St. Augustine said, were of Him who made the sun. Govan possesses another interesting series of memorials in its five curved and coped gravestones. These were designed after the pattern of the metal cases which contained the sacred relics of the saints, which again were modelled directly after the appearance of the dead body as it lay in the church under its rich pall. Stones of this description are found in many parts of England and Scotland, but nowhere are they so numerous or so fine as at Govan. But the sarcophagus is the greatest treasure. Its sides are covered with sculpture work. Careful examination proves that it was intended to be sunk in the earth, and doubtless it was sunk in the earth, as was the usual practice, but it was afterwards lifted and covered with carving, so that it might receive greater honour in the church. It was interesting to find a parallel to this in the lifting of St. Cuthbert's body, and the placing of it above the floor of the church in an elaborately-carved coffin, a description of which has been preserved. Many circumstances combine to lead us to the conclusion that the sarcophagus was the last resting-place of St. Constantine. The symbolic carvings are :—(1) The four mystical beasts of the Apocalypse ; (2) the two protectors of the sacred emblem, that is, the Tree of Eternal Life, the Vine, that is Christ ; (3) the Lamb triumphing over the Beast, as described in the Revelation ; and (4) a stag hunt, which, as was explained by a contemporary of the carver, meant the soul being forced to take refuge in the Church, or the conversion of sinners. The grave slabs, of which there is a considerable number, are all nearly carved to one design. By comparative analysis it was possible to show that, with perhaps the single exception of the cross shaft with the large sun symbol, none of the stones were of earlier date than the twelfth century. It was interesting to find, now that the mystery attaching to the meaning of the many sculptures had been made clear, that the faith of that early time was highly spiritual, and that in all that was done to preserve the memory of the dead thought was centred upon the hope of eternal life.

TESSERÆ.

Decorated Glass.

ONE of the most distinctive features of Decorative windows is the natural form of their foliaged ornaments ; in these the leaves of the ivy, maple, oak and other trees and plants may be easily recognised. These more exact imitations of nature were rather sparingly used at the commencement of the style, and did not, at least in white patterns, wholly supersede the older and more conventional forms until the end of the reign of Edward I., or a little after. It is principally in works executed between 1280 and the end of the reign of Edward I. that the test of style afforded by the presence of the naturally formed leaf is most valuable ; for they bear in general so close a resemblance in other respects to the later Early English glass paintings that without this mark it would be difficult in many cases satisfactorily to distinguish them from each other. This resemblance principally arises from the early Decorated glass paintings being composed of glass of the same texture as the later Early English glass paintings. Hence the general appearance of early Decorated coloured windows, though extremely rich, is by no means gay ; and that of white windows is grey and cold. The grandeur of each sort is enhanced by the great width sometimes given to the lower lights of Early Decorated windows Towards the end of the reign of Edward I. and afterwards, many other points of difference between the two styles are observable, amongst which should be particularly noticed the employment of the yellow stain, which seems to have been introduced soon after the commencement of the fourteenth century. The colour thus produced is in general easily distinguishable by its lemon-like tint from the more intense and golden pot-metal yellows, to which it affords an agreeable contrast. In many instances, however, especially during the latter part of the reign of Edward III., the stained yellow is almost as deep as the pot-metal yellow. Its facility of application soon brought it into general use. By its means the former coldness of white pattern windows was speedily corrected, and artists soon discovered in the richness and power of the stain an efficient substitute for many of the pot-metal colours. Thus a broader and less mosaic style of colouring was gradually introduced, white and yellow glass entering more largely into the composition of coloured designs. The presence of so much yellow had also the effect of imparting to the later Decorated glass paintings a gay and lively appearance.

Animal Forms in Mediæval Sculpture.

The decoration of religious and civil edifices presents an infinite variety of fantastic animals during the period of the Middle Ages. The bestiaries of the twelfth and thirteenth centuries attributed to real or fabulous animals symbolic qualities, the tradition of which has long remained in the mind of people, thanks to the innumerable sculptures and paintings which cover our ancient monuments ; the fables came next to add their contingent to these bestial representations. The lion, symbol of vigilance, force and courage ; the antula, of cruelty ; the dove, of gentleness ; the siren ; the pelican, symbol of charity ; the aspic, guarding precious balms and ever vigilant ; the screech owl ; the wyvern ; the phœnix ; the basilisk, the personification of the devil ; the dragon, to which such marvellous virtues were attributed—all these animals are met with in the capitals of the twelfth and thirteenth centuries, in friezes, squatted on the angles of monuments, crowning buttresses, seated on balustrades. At Chartres, at Rheims, at Notre-Dame in Paris, at Amiens, Rouen, Vézelay, Auxerre, in the monuments of the west and centre of France, are populations of quaint animals, always rendered with great energy. At the summit of the two towers of the cathedral of Laon, the sculptors of the thirteenth century placed in the open pinnacles animals of colossal dimensions. At the angles of the buttresses of the portal of Notre-Dame at Paris are to be seen enormous beasts which, standing out against the sky, give life to these huge masses of stone. The balustrades of the cathedral at Rheims are surmounted by strange birds, draped and hooded. In the most ancient edifices in the twelfth century we find friezes of animals interlaced, devouring one another; capitals on which are figured strange beings, half men, half beasts, possessing two bodies to one head, or two heads to one body. The churches of Poitou, of the Saintonge and of Guienne, the Romanesque monuments of Burgundy and the banks of the Loire teem with these animals, which, though derived from nature, have their own characteristics, have a reality which strikes the imagination. Theirs is a natural history of their own, of which all the individuals might be classed in species. Each province possesses its own special types, which are found in the edifices of the same date; but these types have a common character of savage power; they are all stamped with a sentiment of observation of nature which is very remarkable. The members of these strange creatures are always well united, always rendered with truth; their outlines are simple, and recall the grace which one never wearies in admiring in the animals of the feline race, in birds of prey and in certain reptiles. In the fourteenth century sculpture in becoming poor and meagre, and in limiting itself to the imitations of the flora of the north, suppressed in a great measure the representations of animals in sculpture and painting; but during the fifteenth and the commencement of the sixteenth centuries they reappear, more scrupulously imitated from nature, and in dimensions only playing a very secondary part. They are apes, dogs, bears, rabbits, rats, foxes, snails, lizards, salamanders; sometimes they are fantastic contorted animals, exaggerated in their movements; such are those which used to be sculptured on the ogive-headings of the windows of the Hôtel de la Trémouille at Paris. The representations of fables became more frequent, and, although often by no means decent, are seen in capitals, friezes, wood-carving, stalls and rood-lofts.

Influence of Roman Culture in Northern Europe.

The crossing of the Alps by the Romans was not only accompanied by battles, by political revolutions, and even by wholesale migrations and similar great movements among the Gallic or Germanic races, it was accompanied by an eventful struggle between the pre-Classic and the Roman cultures For the first time the Gauls and Germans stood face to face in their own lands with the foreign culture. The numerous colonies established by the Romans in the lands they conquered, near the Danube, in Gaul and Britain, became so many centres for the diffusion of Roman art, manufactures and civilisation. The effects were soon visible, particularly as the Romans, with great wisdom, humoured the peculiarities of the conquered nations in both spiritual and temporal matters. Every day more and more of the "barbarians" adopted the manners and customs of the Romans, and strove earnestly to imitate the productions of Roman industry. Attracted by the wealth and splendour of the empire of Rome, crowds of the warlike members of the neighbouring free nations flocked to the Roman standards, and thus the knowledge of the Roman culture and its powerful influence became extended far and wide. Even the countries of the north, though they lay far from the Roman frontier and had never been subdued by Roman conquerors, could not escape the mighty influence of the Roman culture. The written records which now begin to cast a light over the state of the nations, both within and without the Roman dominions, are completely silent as to this more peaceful intercourse. All the more valuable, therefore, are the numerous and trustworthy illustrations afforded by the archæological finds. Roman coins and other articles of Roman art and industry have been discovered in surprising numbers in the North—vessels, vases, saucepans and colanders of bronze, vessels of silver and glass, metal mirrors, statuettes, ornaments, weapons, &c., some bearing Roman trade-marks and inscriptions; now and then even Greek inscriptions have been found. The finds in the ancient Danish lands are the most numerous and the richest; from thence they extend to the extreme north of Sweden and Norway, but in gradually decreasing numbers. This action of the Roman culture upon the North, so indisputably powerful in its effects, may be assigned to various periods, according to the contents of the different finds.

Indian Figure Sculpture.

It is very surprising that a people such as the Indian, who possess, as their ivory and stone carvings and clay figures incontestably prove, so great a facility in the appreciation and delineation of natural forms, should have failed to develop the art of figure sculpture. Nowhere does their figure sculpture show the inspiration of true art. They seem to have no feeling for it; they only attempt a literal transcript of the human form and of the forms of animals for the purpose of making toys and curiosities almost exclusively for sale to English people. Otherwise they use the sculptured forms only in architecture, and their tendency is to subordinate them strictly to the architecture. The treatment of them rapidly becomes decorative and conventional. Their very gods are distinguished only by their attributes and symbolical monstrosities of body, and never by any expression of individual and personal character. So foreign to the Hindus is the idea of figure sculpture in the æsthetic sense, that in the noblest temples the idol is often found to be some obscene or monstrous symbol. It is owing to the very fact of their being condemned to a strictly ritualistic representation of their gods that the feeling for the higher forms of sculpture has been destroyedin them. How completely their figure sculpture fails in true art would be seen at once if they attempted to produce it on a natural or heroic scale; and it is only because their ivory and clay and stone figures of men and animals are on so minute a scale that they excite admiration. Their larger figure sculpture is indeed never pleasing, except when treated conventionally. It is a strange failing.

Correspondence

Re Jesse Window in St. John's, Leverington.

Sir,—Those of your readers who take an interest in ancient stained-glass may be glad to know that there is now on view at Messrs. Ward & Hughes, 67 Frith Street, Soho, a remarkably fine Jesse window of the latter part of the sixteenth century. It is from St. John's, Leverington—one of that noble group of Marshland churches around Wisbech—and has been placed in the hands of my friend Mr. Thos. F. Curtis, the present representative of this old and respected firm of glass painters for restoration.

Much of course in this work has been left to conjecture, but the skill and care with which Mr. Curtis has accomplished his difficult and delicate task will I am sure be patent to those who are able to avail themselves of the sight of a piece of work such as cannot be seen every day.

Visitors to these ateliers will be most courteously received, and have the whole explained to them.

I may add that it is to the same skilful practitioner in the vitreous art that the present state of the glorious Jesse at the east end of Selby Abbey is due.

Thos. Francis Bumpus.

Glebelands, Stoke Newington:
March 17, 1900.

GENERAL.

Mr. William Leiper, R.S.A., has prepared plans for the beacon light about to be erected at Duart Point, Mull, in commemoration of the late William Black, the novelist.

The Paintings submitted for exhibition in this year's Salon number 3,286, exclusive of the numerous works which, being "hors concours," have a right to wall-space. The number would have been larger if the rule did not prevail which only allows one work to be submitted by an artist.

The Property of the late William Butterfield, F.S.A., architect, has been valued at 16,369*l.*

Mr. J. H. Sabin will on Monday next read a paper before the Surveyors' Institution, entitled "The Incidence of Imperial and Local Taxation on Rateable Property."

The Imperial Academy of Fine Arts at St. Petersburg was in danger of destruction by fire on Saturday, the part assigned to the students of painting being destroyed and other parts being injured, but the numerous works of art were preserved.

The Exhibition at the Royal Institute of Painters in Water-Colours will be opened to the public on Monday next.

A Statue of the late Alphonse Daudet by M. Falguière will be unveiled, although in an unfinished state, on April 8. The figure will have to be completed *en place.*

The Fitzwilliam Museum Syndicate recommend the appointment of an assistant director of the museum, to be appointed annually by the syndicate.

The Works in connection with the memorial which is to be erected in honour of the late Charles Garnier are now in progress. The structure will stand outside the library of the Paris Opera House. There will be the bust of the architect by Carpeaux, flanked by figures symbolic of Labour and Renown.

The Cowper Museum in Cowper's house at Olney, lately presented to the town by Mr. W. H. Collingridge, will be formally opened on April 25, the centenary of the unhappy poet's death.

An Anonymous Batley benefactor has made an offer of "1,000*l.* towards building ten almshouses for the use of the most worthy and respectable people of the town—such as have not had the opportunity to save up for old age—and to let them occupy them free from all rents and rates."

Speaking at Blackpool last week at the annual prize distribution of the Technical School, the Mayor said that Blackpool and other towns were cursed by the jerry builder, who had another colleague with him, the plumber, whose aim was not honour, but £ *s. d.* If there was one man more criminal than another it was the plumber, but the jerry builder ran him a good second.

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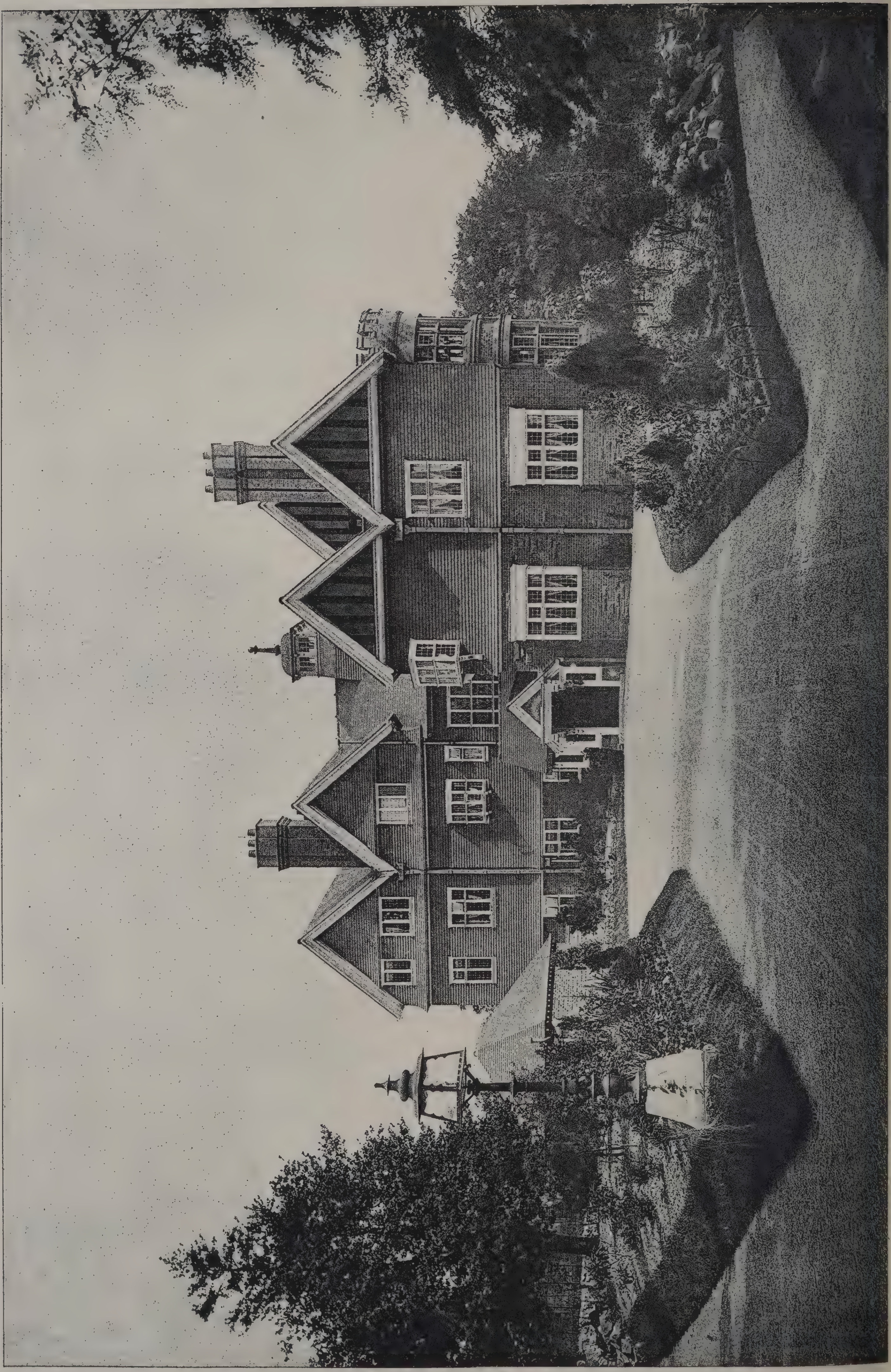

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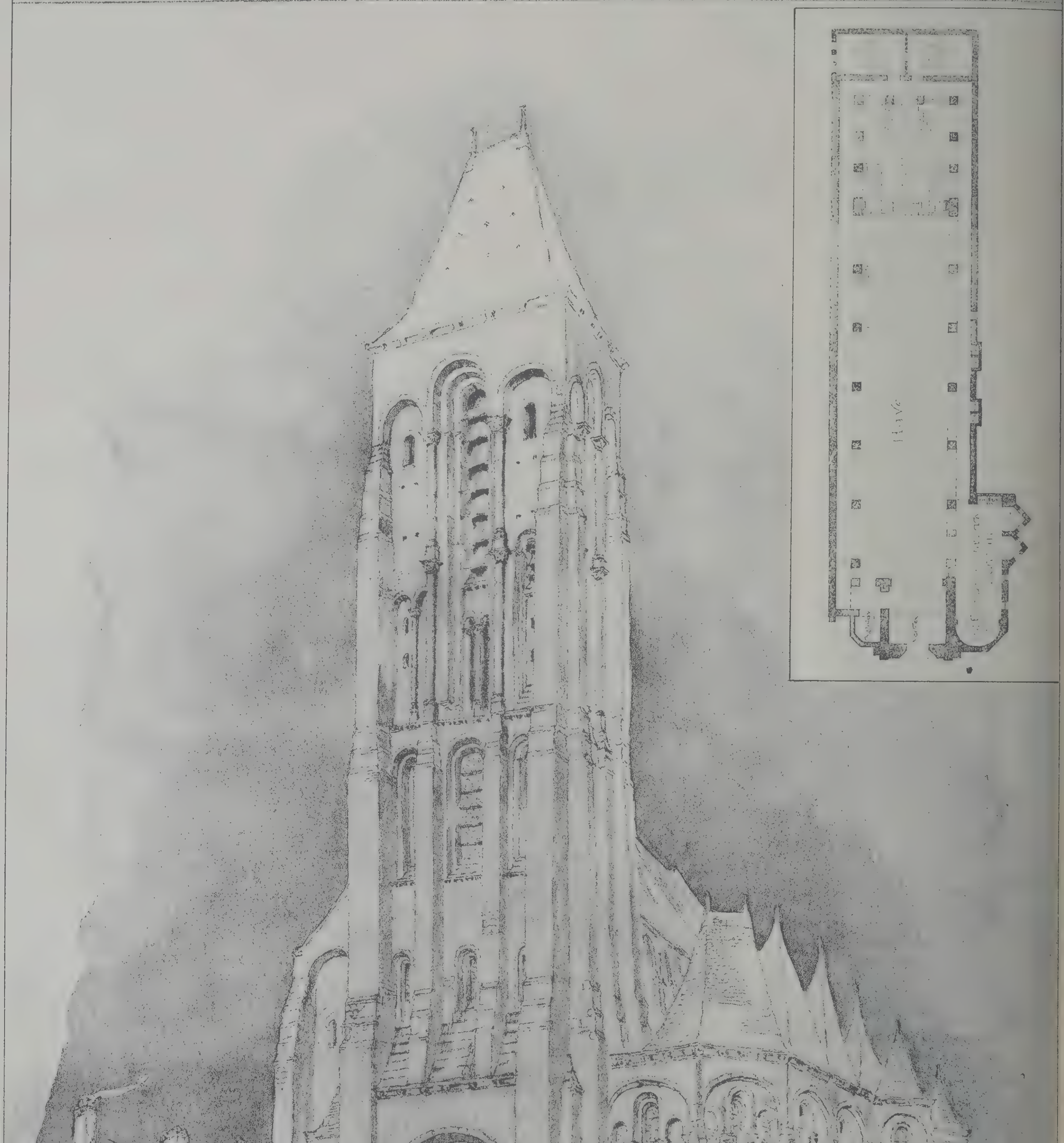
The Architect, Mar 23rd 1900.

PROPOSED CHURCH OF THE ENGLISH MARTYRS WALWORTH. EXTERIOR.

BENEDICT WILLIAMSON, ARCHITECT.



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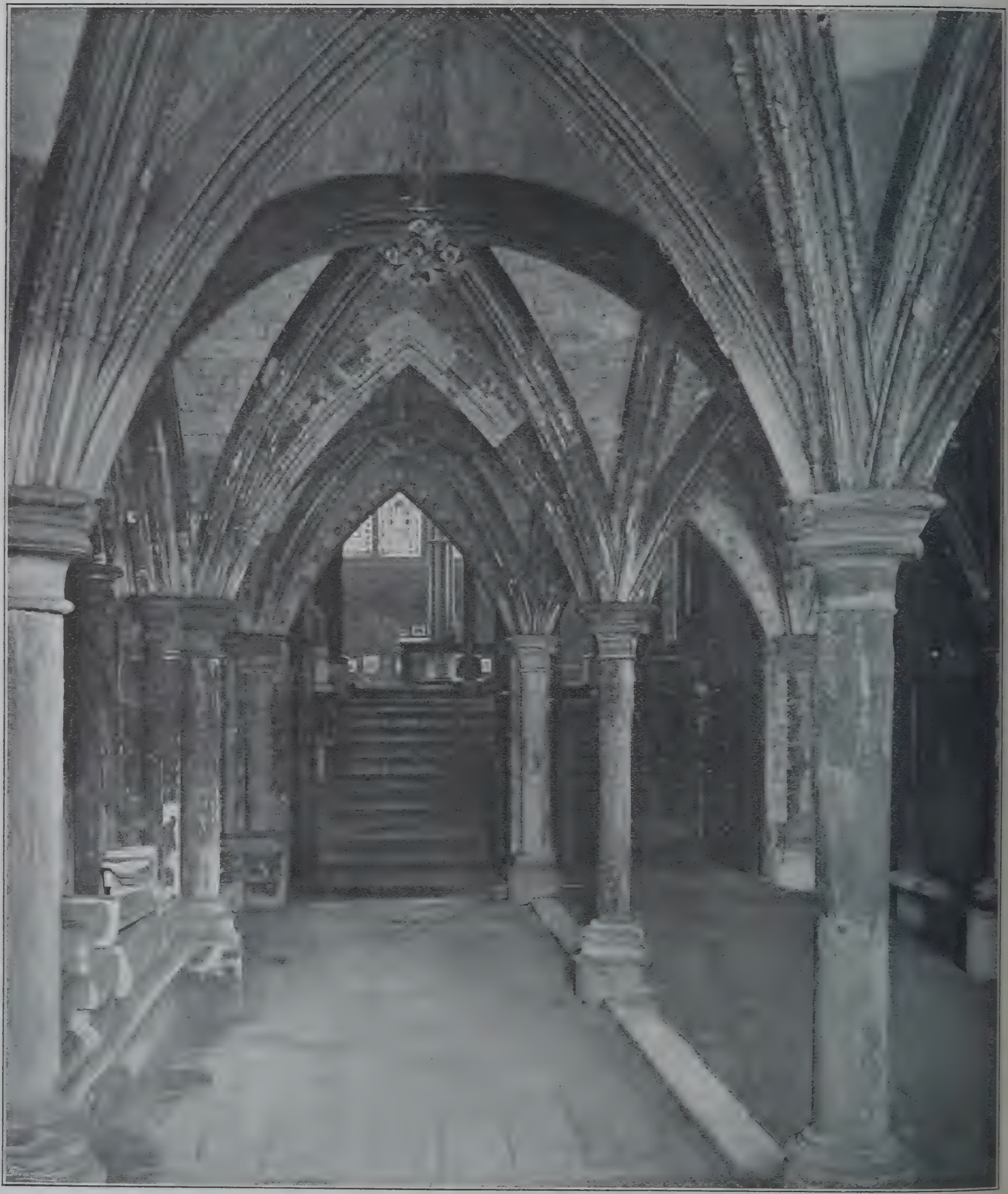

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WESTMINSTER ABBEY, No. 33.
ENTRANCE TO CHAPTER HOUSE.

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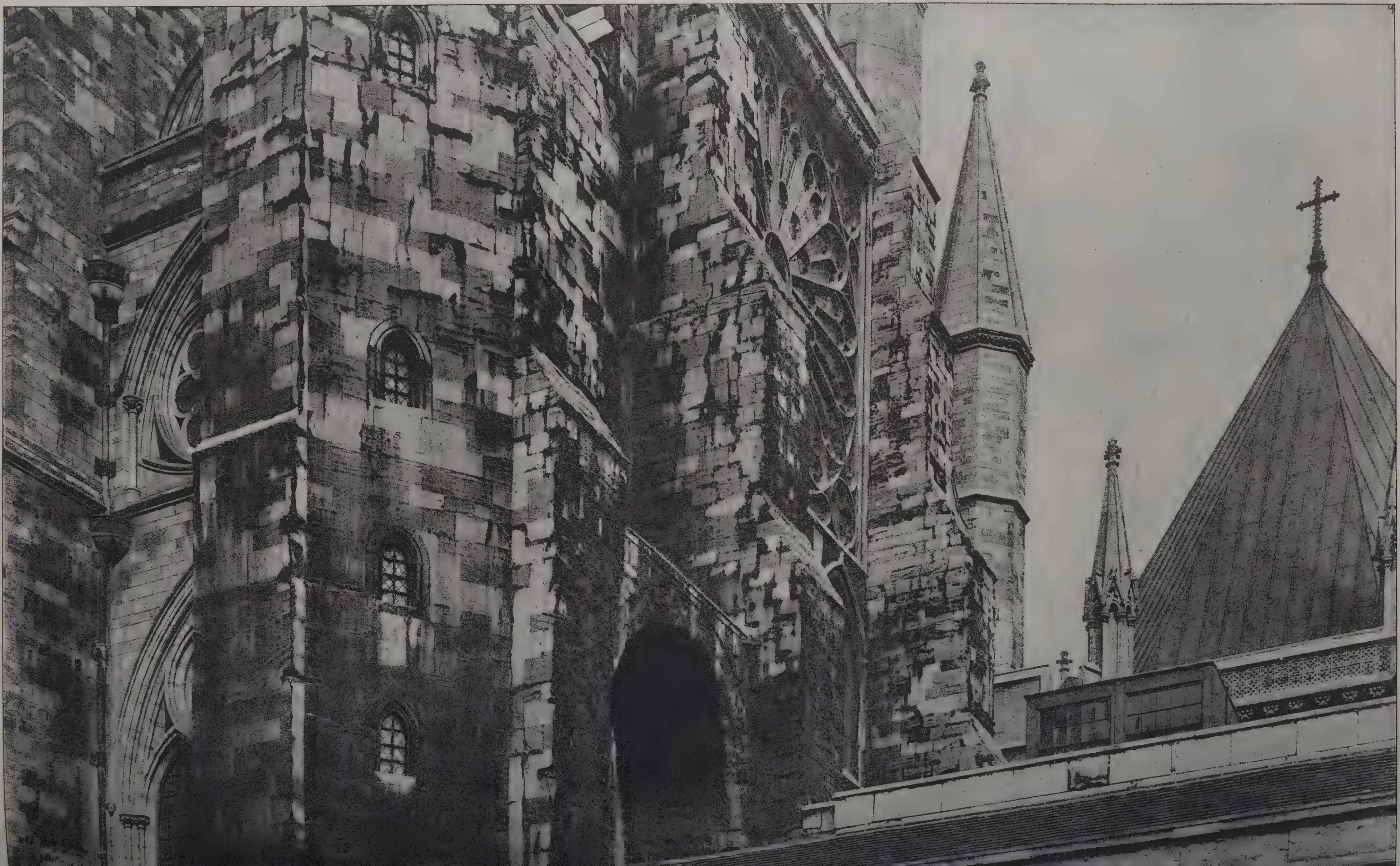

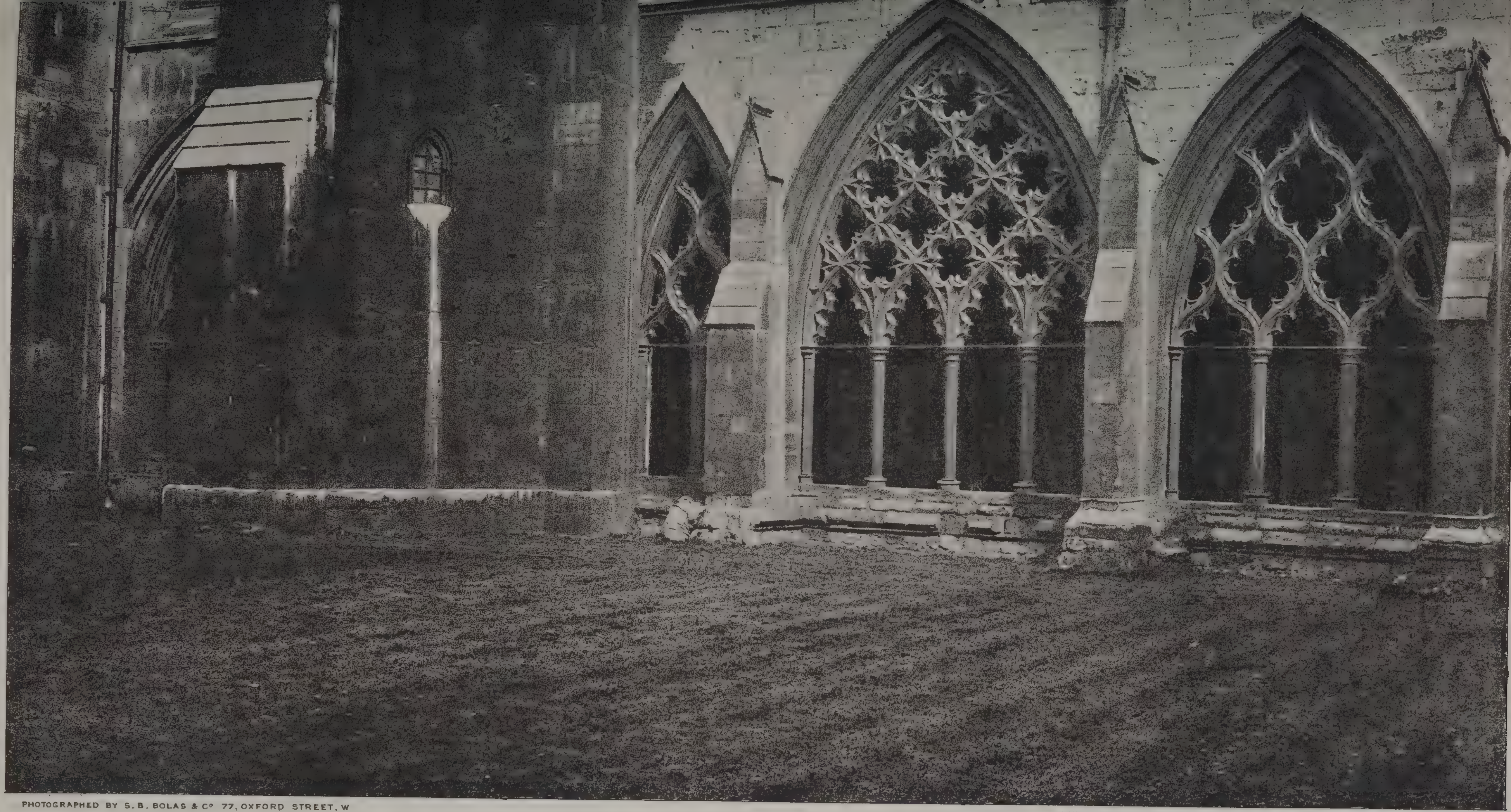

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Westminster Abbey, No. 32.

Cloisters and End of South Transept.

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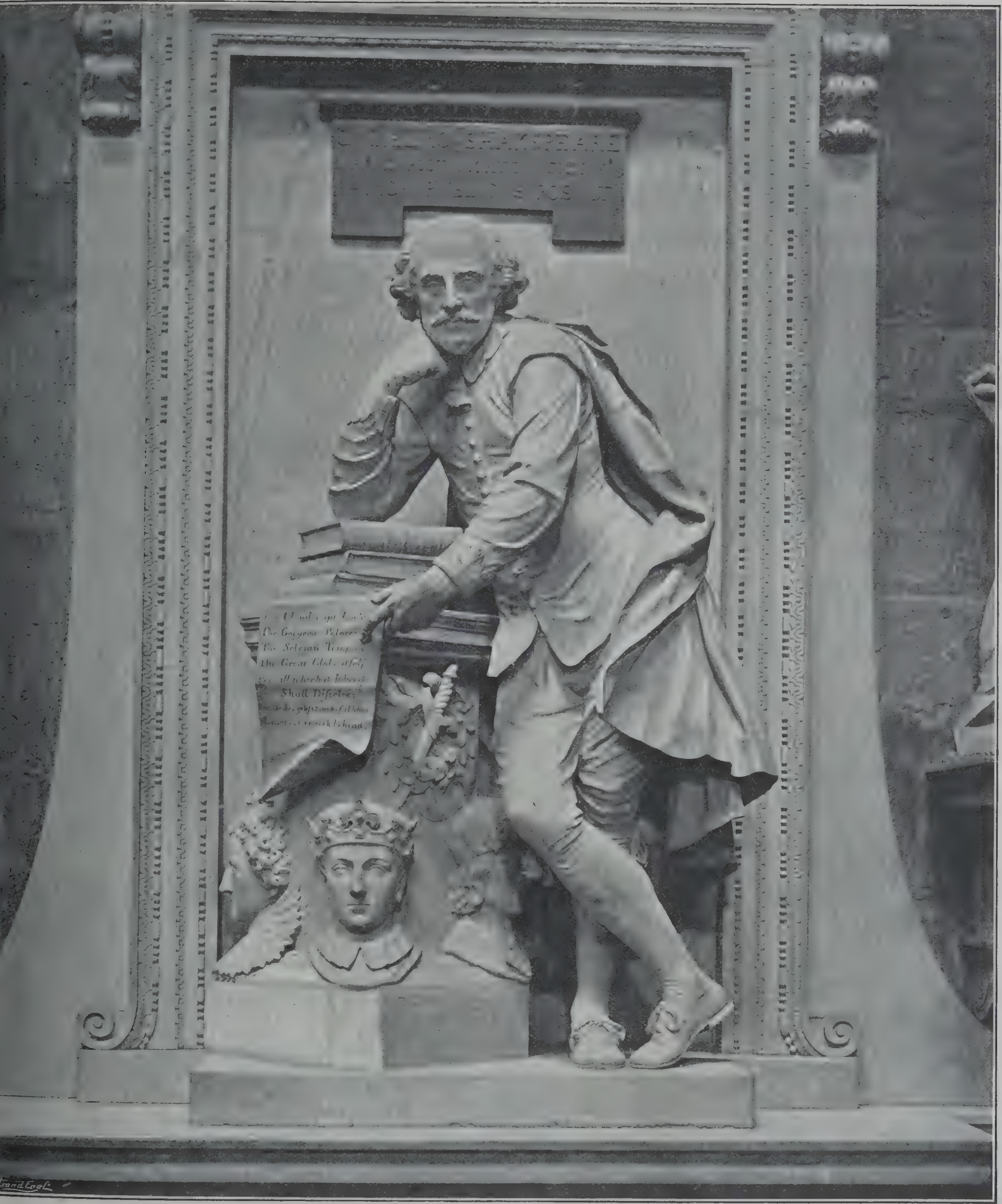

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WESTMINSTER ABBEY, No. 34.

SHAKSPEARE MEMORIAL.

By P. SCHEEMAKERS (after a Design by W. KENT

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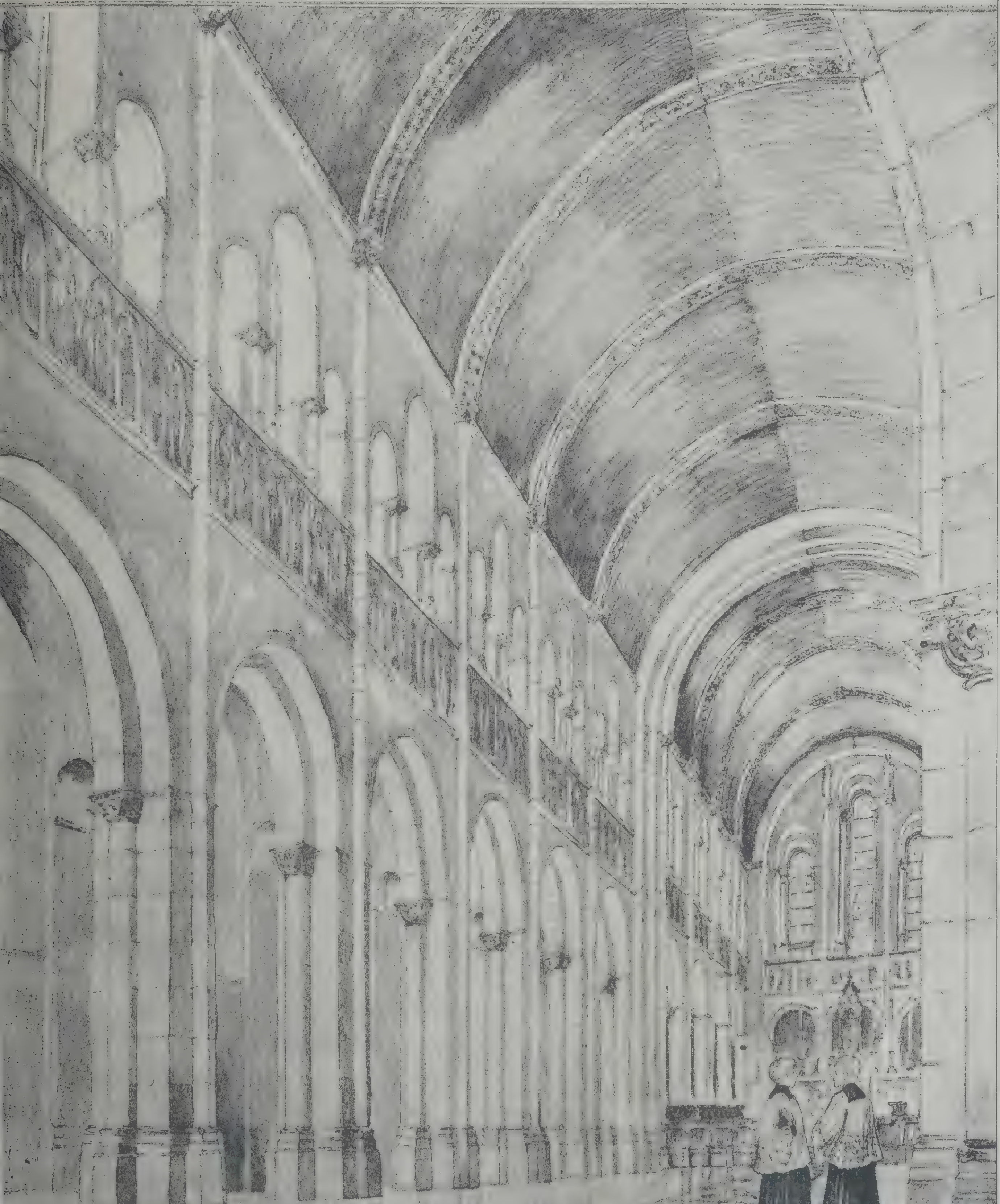
PROPOSED CHURCH OF THE ENGLISH MARTYRS WALWORTH INTERIOR. BENEDICT WILLIAMSON. ARCHITECT.



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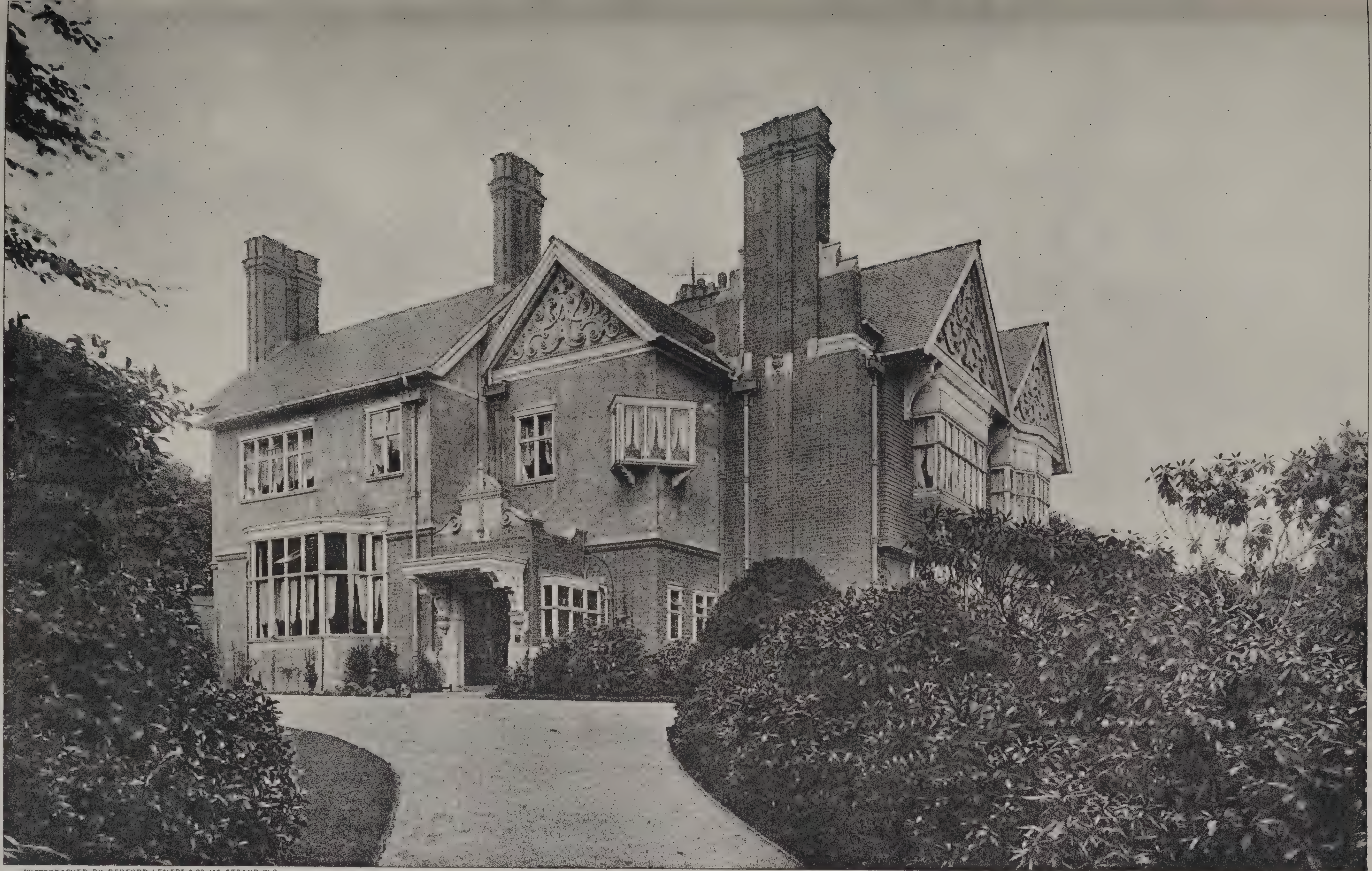
The Architect, Mar 23rd 1900.



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"FERNLEIGH," NOTTINGHAM.

ARTHUR MARSHALL, Architect.

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The Architect.

THE WEEK.

On Monday a committee of the House of Commons passed the preamble of a Bill for the construction of a remarkable bridge which is to be constructed across the Mersey and the Manchester Ship Canal between Runcorn and Widnes. The two towns are only about 430 yards apart, but all traffic between them has to follow a roundabout course. It is now proposed to unite them by means of a transporter bridge like those which are now in constant operation at Bilbao and Rouen. The girder of the proposed bridge will be 82 feet above the ordinary high-water mark, a greater distance than that of the railway bridge close by. The central span will be a clear 1,000 feet from centre to centre of the piers, and carried over both the river and the Ship Canal. The transporting car will be 55 feet long and 24 feet wide. It will have a clearance of 12 feet 6 inches above ordinary spring tides at high-water mark. This car will be worked by duplicate electric motors under the control of two men, the time occupied in transporting the car from one landing-place to the other being two and a half minutes. It is not often English engineers have to go abroad for a model to imitate, but invention is not confined to England, and apparently no more efficient means of communication can be discovered to meet the requirements of the two towns.

Every time there is an election in Paris all the public buildings and monuments appear to be handed over to the bill-stickers. Addresses from the candidates appear printed on paper of the crudest colours. No building, however sacred, can be saved from the vandalism. The paste employed is not made of honest flour, but of some wretched compound which leaves an indelible stain long after the placard has been torn down. The good sense and the good taste of the Parisians ceases to be influential on those occasions, and the appearance of the city becomes degraded. An effort has been made by the Commission of Monuments of Paris to raise an obstacle against the attacks of the bill-stickers. It is suggested that kiosques or similar structures should alone present the appeals to the free and independent electors. It is not, however, expected there will be any change. The whole affair is supposed to be a frolic, and the changed appearance of a fine architectural work when covered with hideous coloured paper is taken to be a burlesque of architecture which is worthy of the witty spirit which dares to caricature our venerable monarch with impunity.

The sense of what is opportune is not innate in all Irishmen. Evidence of this has been afforded by Mr. Walter Doolin, M.A., architect. He does not wish to co-operate with the members of the Irish Institute who have offered their services in advising on the decorations which are to be prepared for the Queen's visit to Dublin, and which, we are glad to say, are on a more extensive scale than was originally contemplated. Most of the banners will of course be green, which in Ireland is declared to be "the colour of the true." Mr. Doolin objects to it, because the heraldic colour for Ireland is blue. Every student of the royal science is aware of that fact, and it has been several times mentioned in these columns. But if the laws of heraldry are to prevail, there are few coats of arms which would not have to be altered. According to some authorities, the lions in the English shield should be leopards, and the combination of a lion guardant and a unicorn armed as supporters is not of an earlier date than 1603. Usage has authority in heraldry as in common law, and for a century at least "our own immortal green" has been adopted by the majority of Irishmen as their distinguishing colour. If azure banners were substituted along the line of route some injury would be likely to arise to the houses which exhibited them. For the sake of the public peace it is satisfactory to know that Mr. Doolin's advice will not be taken. It would perhaps have been wiser if he had recommended that orange and green should be brought together, although orange in a heraldic sense is "stainant" and is a mark of some original discredit. But as a token of the union of parties the combination would be a welcome sight to which purists in heraldry should not object.

The difficulty of defining a scaffold is generally fatal to claims under the Workmen's Compensation Act, even when the judge or his representative appears to be favourably inclined towards the applicant. A case of the kind was heard lately at Oldham and decided on Monday. A journeyman who was employed by a plasterer was engaged on a ceiling at a house in Middleton. He stood on a plank which was supported by a pair of trestles. As the plank was unsteady he tried to secure it by means of nails. Whilst striking a nail it flew up and struck his eye, which was so much injured that it had to be removed. The accident could not have been prevented by any foresight, and, as a rule, plasterers like to make their own arrangements about the stand which has to support them. A defence of that kind is, however, not allowable; accordingly it was pleaded that (1) the building was not one within the meaning of section 7 of the Act, not being constructed or repaired with scaffolding and not being 30 feet high; (2) that the applicant was not seriously incapacitated within the meaning of the Act; and (3) that the respondent was not an "undertaker" in the terms of the Act. The arbitrator was in favour of the applicant on the second and third points, and considered that on account of his injuries the man would be entitled to an allowance of 10*s.* a week. The height was measured to the top of the chimney-stack, which therefore brought the house within the Act. But the arbitrator said that with respect to the scaffolding he was about to decide against the applicant, for if the word "scaffolding" was to be construed along with the word "height," he could not consider that the trestles and plank on which the present applicant was working constituted a "scaffolding" as contemplated by the Act. The arbitrator, however, stated a case for appeal.

The second Congress of Christian Archæology will be held in Rome from April 17 to April 25. Membership can be obtained by payment of a fee of 10 francs, or 8*s.* The secretary of the commission is Signor A. Bevignani, Piazza Crociferi, Rome. The meeting will have unusual interest owing to the proclamation of the "Anno Santo." Among the subjects to be considered will be "Primitive Christianity in its Relation to the Arts," "Mediæval Christianity of Western and Eastern Europe and the Arts," "Literature in Relation to Christianity and the Diffusion of Archæological Knowledge." It has been arranged that although the congress is international only five languages will be recognised, viz. Latin, Italian, English, French and German. The members of the congress will be enabled to see many treasures which are not visible to the ordinary tourist in Rome.

The juries of the various sections of the French Salon exhibition have been more severe than usual in judging the works which were submitted to them. It was considered wise to present as excellent an array of art as could be obtained before the eyes of strangers who will visit Paris this year, and who may not have beheld a Salon exhibition at an earlier time. But to attain that end an unusually large quantity of works have been excluded, and there will be in consequence much dissatisfaction among some classes of artists. Last year about 4,900 works were accepted. This year the number may be taken as 2,000, or less than one-half. The reduction will give rise to heart-burning, owing to the anxiety of artists to obtain a chance of displaying their work before the foreign patrons of art. The number of architectural drawings sent in was 350, and only 139 are accepted; 1,400 paintings have been passed out of 3,900, and 373 examples of sculpture out of 635. The number of engravings has to be determined. It will be evident that in all branches of art the same rigorous rule was applied. The architects who filled the unenviable position of jurymen were MM. Pascal, Vaudremer, Daumet, Scellier de Gisors, Moyaux, Mayeux, Laloux, Guadet, Redon, Raulin, Loviot, Deglane, Adr. Chancel, Normand.

QUANTITY SURVEYOR'S LEGAL POSITION.

THE elaborate judgment by Chief Baron Pallas, one of the Irish judges, who is recognised as an able lawyer, which is to be found on another page this week, suggests some of the uncertainties which attend architectural procedure. In the case which came under his lordship's notice a quantity surveyor had sought to recover the amount of his fees from a builder. We need not say that in England the common practice is for the builder to pay the surveyor, and it is found to work well for all parties who are connected with a contract. But generally care is taken to keep the builder from overlooking the necessity he is under to assume liability for the cost of quantities. The assurance of payment can, of course, be increased by introducing a clause to that effect in the conditions of contract. Then there is a contract and the builder, if he receives the money, simply holds it for the use of the surveyor. If by any chance it is overlooked to insert a notification about paying the money, the surveyor can only depend on evidence of custom and on the fact that his calculations have been of material use to the builder. The building owner can become directly liable to the surveyor provided it can be proved that he entered into an engagement either with the surveyor or with his own architect, whose acts become those of his agent's. In the Irish case apparently it was stated on the bill of quantities that the builder whose tender was accepted was to pay the fees, and the builder declining to do so because cash was not received from the building owner, the surveyor was forced to take legal proceedings. It will be observed that in his judgment the Chief Baron regarded the case entirely as one of contract. There was no evidence forthcoming which the Court considered to be adequate to prove any contract had been entered into between the quantity surveyor and the contractor. The decision was therefore given in favour of the defendant, but there was a suggestion that the building owner should accept liability. The result of the case is well worth attention.

In the first place, the case is a converse of Priestley & Gurney *v.* Stone, in which contractors claimed compensation for loss arising out of insufficient quantities. The defendant denied that he was employed by plaintiffs as surveyor, or that he was under an obligation of duty to them, or that he supplied them with quantities, since there was no agreement that they were to pay him. The judge thereupon held the surveyor was not liable for the losses incurred, and the plaintiffs were nonsuited with costs. The decision was confirmed on appeal. In the Irish case also the Court could not find evidence of any contract between the surveyor and the builder, and as there would be no responsibility on the surveyor's part, or necessity to insure the defendant against loss, the Chief Baron and the other judges decided in favour of the defendant. In both instances very little would have sufficed to prove a contract, but as it was not forthcoming both claims were considered baseless.

The practice of receiving fees for quantities from the builder has gone on for so long a period, and so few disputes have been brought into Court, it is allowable for a surveyor to assume that every builder with whom he is brought into business relations accepts the custom without any demur. But when we find, as in Northcroft *v.* Delany, the builder refuses to pay, for the valid reason that the anticipated receipt of money from employer was not realised, then the surveyor's claim may not appear to rest on a stable foundation. It is also possible that some building owners may not understand why they should be made to pay for documents of which they profess to be unable to perceive the advantage to themselves. The remedy in all such cases is easily found. If the building owner is not aware of the necessity for detailed calculations about the quantity of work which has to be undertaken it should be explained to him. It would also remove all the difficulties which are likely to arise if in the contract it was agreed that the builder was to pay the quantity surveyor, and the amount would be refunded to him. It would also be well if, in addition to the memorandum at the foot of the quantities, a few words were added explaining the extent to which the builder became responsible for the fees, and asking for a note in which it would be stated that he had accepted it. At present it is often only a tacit acceptance which can be claimed.

On this subject it may be well to refer to the suggested agreement for settling the cost of quantities which has been proposed by his honour Judge Emden, who says:—"It would seem that in general complications might be avoided by an agreement in the first instance by the building owner with the surveyor to pay his fees for taking out the quantities, with suitable provisions protecting the former against any inaccuracies in the quantities, and stipulating that the surveyor should look to the builder for payment in case the latter refuse to proceed after his tender has been accepted. For whoever employs, or is directly answerable to, the surveyor for the bill of quantities, whether the building owner or the builder, when the contract is performed, the money for the same comes out of the pocket of the building owner and goes through the hands of the builder, and he includes it in the contract price; and that where, on the other hand, the performance is prevented by the act of the building owner, he again is liable for the surveyor's fees." If that arrangement were adopted, it must be allowed that the building owner's liability might not be confined to the payment of 2½ per cent. on the tender. Lord Grimthorpe, in spite of all his oddities, is a particularly shrewd lawyer, who has assisted in the making as well as in the administration of Acts of Parliament. His counsel to building owners was thus expressed:—"I advise employers not to let the quantities be taken by anyone who can be made out to be their agent." If litigation once began between an owner and a quantity surveyor it is far from certain that the builder's position would be strengthened. In fact, old arrangements can never be disturbed without loss. The prevailing practice has continued for a long time, and in proportion to the number of bills of quantities which have been prepared and the number of contracts undertaken the disputes have been remarkably few. Occasionally a case like Northcroft *v.* Delany will arise, and a large sum of money will be expended in litigation; but we are disposed to doubt whether the builder has gained or, indeed, expected much by his victory. It is, however, satisfactory to find the Irish judges recognising that work was done by the surveyor for which he was entitled to payment, and which therefore must have been of service to the building owner. But it will be hard if it should be necessary to invoke the aid of the law in order to obtain the money. The possibility of expending additional sums on law costs is enough to suggest the anomalous position in which a quantity surveyor can be placed if a builder finds himself unable to carry out the approved arrangements which hitherto have operated satisfactorily for thousands of men of his class.

INSTITUTE OF PAINTERS IN WATER-COLOURS.

THE exhibition of the Royal Institute of Painters in Water-Colours presents at least one novelty this year, for a wall of the east gallery is occupied by works of the members of the Society of Miniaturists. There is no reason why photography should be allowed to entirely supersede an art so ancient as miniature painting, and the examples in the Piccadilly gallery prove the possibility of obtaining portraits on a small scale which are equal to the English works of the last century. Probably the best among them is Mr. H. J. Stock's portrait of the *Hon. Mrs. Leveson-Gower*. There are also excellent examples by Mr. Praga, Miss Webling, Mr. Ernest Lloyd and others. The miniatures are likely to obtain a fair share of the attention of visitors.

It happens that some of the most interesting works in water-colours are likewise on a small scale, including three by the president, Mr. E. J. Gregory. He has not considered it necessary to display his skill on unpromising subjects. *A Guard Room Dandy* is a very fine fellow who has some reason for his self-satisfaction. He might have been one of Captain D'Artagnan's men, and his uniform and accessories are painted with a skill which is at least equal to Meissonier's. *The Beggar Maid* shows a little girl lying on the edge of a moat near a castle gate, towards which a grand carriage drawn by eight horses is approaching. In *The Inception of a Song* we see a girl with one hand leaning on a table and holding a mandoline, while the other supports her chin; she wears a marvellous piece of embroidery, and every part of this dainty little picture is finished with extraordinary care. It would be an advantage if many other artists were to take a hint from Mr. Gregory, for with the limited wall-space which most amateurs have at their command, there is no room for large drawings. The most daring work in the exhibition this year is *The Lancers*—1900, by Mr. Lucien Davis. The Turkish gentleman who was amazed on his first appearance in a ball-room, and expressed his surprise that so much exertion was not allotted to slaves or hired performers, would certainly conclude that English people had gone mad, for otherwise they would not permit such a boisterous and undignified scene, nor participate in it. The types of dancers appear to have been drawn from shop assistants. But however disagreeable in themselves, there can be no question of the power with which they are represented. It is a pity the artist did not discover a more worthy subject for the display of so much ability in showing violent action. Mr. Burrington does not explain the subject of his *Fool's Revenge*; but if the costumes were more ancient we might suppose the piebald jester was upbraiding Regan and Goneril. Miss Mabel Ashby by her *Sir Lancelot and Queen Guinevere* excites some pity for the lovers by making them very young. Mr. E. Wake Cook has an interesting drawing of *Michel Angelo's Monument to Lorenzo de Medici, Florence*, in which the contrast between the colossal sculpture and the modern spectators is well brought out; but the work is too near the floor to be adequately appreciated. There is so much seen of warehouses, balks of timber and wharves in Mr. Geoffrey Strahan's *St. Paul's from Waterloo Bridge*, the dome of the cathedral is not of much account, and for pictorial purposes it would be better if the arrangement had been reversed. Mr. Bale's *Carrara Mountains* has a strange effect, for the marble hills resemble clouds. Mr. Aumonier shows the well-known chalk pit at Amberley, and imparts interest to it by introducing the moon rising above the edge. In the central gallery he has a solemn *Evening*, in which all parts of the landscape are represented in a very bold yet simple manner. The easy-going manner of Dutch boatmen and boats is well represented in Mr. Richardson's *Zuyder Zee*. The calmness which so often overspreads the water appears the more remarkable for occurring near a very busy city. In *Winter's Lingering Snow*, Mr. Nisbet has attempted a very difficult scene, for snow appears to melt into clouds, and it is difficult to make out the separating line. Mr. Yeend King has almost renounced his favourite green this time, and has made Wareham in Dorset supply materials for his three drawings. They are all boldly executed. The late William Simpson was a remarkable example of triumph over adverse circumstances. While engaged as a war correspondent in remote regions he rendered many services to art in attempting to elucidate early architecture. There are half a dozen drawings by him in the exhibition, a larger number than ever were seen there during his lifetime. The *Interior of a Church, Brindisi*, shows a dark building with devotees around the altars. In *The Bin Tepé, Sardis*, we have a contrast between the remains of ancient Persian masonry and a modern railway. Mr. J. C. Dollman, in *A Mother's Help*, which shows a chubby child trying to knit with the assistance of a kitten, is more pleasing than his usual highwaymen; the figure is well drawn and the humour is not forced. As much cannot be said of *The Good Old Days*, where the sight of a single knight of the road has thrown a coachload of people and their four horses into commotion. Mr. E. M. Wimperis displays his usual boldness in his *New Forest Glade*; the trees and sward recall John Linnell. Another vigorous drawing is Mr. Powell's *Falls of the Tummel, Pitlochry*, in which the foaming water, trees and mountain are true to Scotland. The *Church Pool, Bettws-y-Coed*, is a different class of subject, but is no less indicative of artistic power which gains its end apparently without difficulty. Mr. Finnemore's only contribution is *On a River Omnibus, North Holland*, in which we see a characteristic group of women in a cabin with a male passenger. Mr. Claud Shepperson's *Man in the Red Cloak* would serve as an illustration for a romance, for a villanous swordsman is seen in ambush waiting for a couple of men. The same garment seems to have been utilised in the scene derived from the novel "John Inglesant." The Boer war has suggested several pictures. In Mr. C. A. Wilson's *News from the Front* we have a finely finished figure of a girl who has been reading a newspaper. Mr. Orrock has withheld his usual drawings of scenes on English and Scottish moors, and in *Ulverscroft Priory, Leicestershire*, has depicted the fertile country which surrounds the old abbey; but the picture would have gained by the exclusion of the decayed tree in the foreground, a piece of conventionalism which has little meaning. In *Spain*, by Mr. T. R. Macquoid, we have an arch through which a street and buildings can be seen, but the care given to architectural detail imparts too much of a modern if not unartistic character to the structure, and, indeed, the drawing would serve for a proposed work. *Ending Day*, by Mr. Joseph Knight, is one of his solemn views, in which a part of the Downs appears under a new aspect. It is very dark and yet expressive. Few scenes have been more often painted than *Kilchurn Castle, Loch Awe*. Mr. G. S. Ferrier suggests its appearance on a dull day, which may be in keeping with the ruins but deprives the landscape of some of its glory. Mr. Rainey, who is in force this year, has an interesting drawing in the west gallery, *Grandfather*, a scene outside a cottage.

The *King Lear* of Mr. A. Rackham, in the central gallery, is small in size, but is more suggestive of the terrible heath scene than many a larger painting, for Lear, although an infirm, despised old man, has sufficient dignity to arraign the elements as the ministers of his daughters. Mr. Walter Langley is another recorder of the interest shown in the African struggle. His *War News* is a sensible old fellow in a white blouse who has read his newspaper with care, and is no doubt a resolute supporter of the country. There is a great contrast between Mr. Edward Hayes's *Zuyder Zee* and the drawing of the subject in the west gallery. The veteran artist can represent waves as buoyantly as ever, and his craft are not confined to those of Dutch build. Mr. Frank Walton has a series of drawings from Sark, an island that must be considered as too much neglected. For all who can paint rocks it offers abundant variety, and the views in the exhibition are enough to send young artists there without delay. Mr. E. H. Fahey's *Cottages, Sunning*, shows an abundance of the floral riches which too often make people forget the sanitary shortcomings of the houses, for flowers conceal a multitude of defects. Mr. Edgar Bunty's *Cervantes at Lepanto* suggests how the author of "Don Quixote" lost his left hand, for not until he was tired of soldiering did he turn himself to literature. In those days there was closer fighting than is now possible in South Africa, for the Turks were always too brave to shelter themselves and skulk behind rocky ramparts. Mr. Byam Shaw's *The Outcast* is a daring experiment. We have recently reproduced M. Jean Paul Laurens's *Excommunication*, in which a French king is seen on a bench against a wall attended by his wife, whilst the officiating clergy are passing out. In the English version the arrangements are similar, but a shadowy figure of Christ is seen holding the man by the hand, thus taking the office of the woman who is crouching near the door. It must be admitted that the French work is more likely to move spectators to sympathy, for in it woman is in her proper place. Mr. Swanwick's *Carting the Corn* and *Homeward* are good examples of the small-sized and delicate drawings which are now in request. The *Music Lesson*, by Mr. G. G. Kilburne, represents a girl seated at an old-fashioned spinet; a very carefully-groomed attendant is beating time, and a watchful mother scrutinizes them in the background. The Arc du Caroussel is not much admired by Parisians, but Mr. Fulleylove makes a pleasing view of it from the Tuileries Gardens, whence it becomes more interesting than when seen from the Louvre. His view of the northern portico of the Erechtheum is not that which is usually considered to be most characteristic, but it enabled the artist to suggest the extensive ruins in the neighbourhood. Mr. Whetherby's *Ebb Tide* has a curious effect, for the woman and child seen standing on the cliff have a surprising resemblance to the *Sistine Madonna*. In *An Ancient Fort* Mr. Cotman introduces a very bright red sandstone among the ruins, than which there could not be a stronger contrast with the trees. Mr. Arthur Severn's *Sun Setting in Mist* is an accurate representation of a phenomenon seen on a flat coast, and is rendered with remarkable fidelity. Mr. Charles Cattermole must possess a family receipe for producing telling drawings. *Which Way?* and *The World Forgetting, by the World Forgot,* a scene in monastic grounds near a remarkable church, if hung at South Kensington would be taken for George Cattermole's work. In both artists there is scenic power which impresses at the first glance. Mr. Percy Dixon has caught the peculiar saddening characteristics of the Irish bog districts in his *Peat Gatherers, Donegal.* Mr. J. A. Fitzgerald's drawings are always reposeful, for the subjects generally take us out of this everyday world. His *Faërie Bridge* and *Lost in the Woods* are excellent specimens of a fine style that is not sufficiently esteemed. *Bretons at Prayer,* by Mr. S. Curnow-Vosper, is dark in colour, but brings out the strongly-marked features and concentrated devotion of a race of peasants who seem to be above everything frivolous.

In the east gallery Mr. Claude Hayes has a rather large drawing, *The Road by the Mill,* which really suggests a narrow path over a common. So many have been painted it is not easy to make a mill scene novel, but here we have form and colour and a sense of atmosphere which are well worth possessing. Portugal is not a country in which picturesque architecture is often sought for, and consequently few artists venture on a journey to it. Mr. Frank Dillon, who has been in many out-of-the-way places, presents *The Tower of Belem, Lisbon.* It might have been designed by a confectioner or sugar baker, and is as incongruous a building as could be found, but it has the advantage of being novel to most spectators. Mr. Walter Langley's *Motherhood* might be the portrait of a peasant woman of a pessimistic turn; the dexterity shown in the copy of the old engraving nailed on the wall is likely to receive more attention than either of the figures. Views of Windsor Castle are familiar in exhibitions, but *Windsor Castle from Snow Hill* would not be generally recognised if no title were given it. The castle buildings become most severe in form and suggest that originally the possibility of attack was not ignored by the builders. Mr. Bernard Evans's drawings are generally among the most interesting in the exhibition. This year he gives us a splendid view of Fountains Abbey, with the title *Leafy June,* in which his mastery of tree forms is displayed. Very different in style is his *La Tourette—A Rock Town on the Riviera, near Nice.* The rocks which form as it were the pedestal for the town might be supposed to be basalt columns of a less regular form than we find at Staffa or Antrim. The lines of the houses continue the vertical lines of the base, and we have, therefore, a novelty in building sites, for generally the lines of the strata are horizontal. An arched bridge spanning a torrent in the foreground gives the necessary contrast; and the severity of the town is also emphasised by the trees and banks around it. The most brilliant single figure in the gallery is Mr. Henry Ryland's *Rhodanthe* (*the Rose Flower*), which is almost decorative in character. The girl stands in front of an Ionic alcove, and holds wreaths of roses; it is an admirable example of water-colour art. Mr. Harry Hine this year contributes views of Ely and St Albans Cathedrals, which are carefully executed. The *Priests of Ancient Britain,* by Mr. W. W. Collins, represents a procession in a great forest, where a venerable Druid is about to perform a sacrifice. With a subject of the kind we cannot expect archæological accuracy, and there is accordingly advantage in such treatment as in seen in the drawing, which means surrounding the figures with so vast a mass of mighty trees and rocky ground covered with vegetation, that it is difficult to say whether the figures are not subordinate to the surroundings. In one respect, therefore, the picture becomes the most interesting example of the historical class, although it would be more correct to say history and landscape are combined in it. In Mr. Harold's *Farmer's Daughter* the horses and fowls are more important figures than the girl who is seen feeding them. There are a great many other drawings in the exhibition which are deserving of attention, and although there are fewer of those striking incidents which give most pleasure to visitors, yet all who value sound workmanship will find much to gratify them. It is, moreover, evident that there is no deterioration among the works of the members.

ITALIAN RENAISSANCE DETAIL.*

"NOWHERE did the exuberant fancy of the early Renaissance architects find such free play as in the enrichments of their buildings. Founding their designs mainly upon the scroll-work of ancient Rome, in low relief, they developed a treatment which, while of infinite variety, is always recognisable as that of their age and country. Sometimes formal, sometimes free, always conventional, always subdued sufficiently not to interfere with the general design which it decorates, it is uniformly pleasing. Panels and pilasters are freely ornamented with scrolls in which the acanthus is largely, but by no means exclusively used, other leaves and flowers being introduced, conventionally treated in a highly decorative way, to fill but not to crowd the space available."

Such was the judgment passed a few years since, before Italy had been visited, based upon photographs, drawings and casts, and upon the few small examples of original work to be found in South Kensington Museum. Since that time Italy has been visited with the express intention of studying closely the ornamental detail of the period of the architectural Renaissance *in situ,* and of making measured drawings of selected examples of it for publication in book form ("Architectural Details of the Italian Renaissance," by G. A. T. Middleton and R. W. Carden), of examples selected as much for variety of treatment as for their beauty, and a modification of judgment has been the natural result. But a moderate modification only has been necessary.

The original judgment, it will be noticed, was passed upon the earlier work only, it being acknowledged then as it is more fully recognised now, that the detail of the later period of the Renaissance, in Italy as elsewhere, was wanting in imagination, in the underlying spirit of conception and design, though its grandeur and its suitability to the buildings which it serves to decorate could not possibly be appreciated till the buildings themselves had been seen. It was the scroll-work of the later rather than the earlier period, however, which was based upon the scroll-work of ancient Rome in any deliberate sense, as it was the buildings of the later period which the more nearly followed Roman models. The earlier workers may have been influenced somewhat by the examples of ancient Roman craftsmanship around them, as they unquestionably used the ordinary Roman details, such as the leaf and dart enrichment; but they appear to have been also influenced by Byzantine tradition, and as this was itself based upon the Roman and its predecessor the Greek, we may almost be justified in recognising a continuity of classic tradition, so that the early Renaissance, so far as its ornament was concerned at any rate, was a native descendant and true revival of the classic spirit as opposed to the copyism of the classic letter which came later on. The tradition had in fact been kept alive in the treatment of the goldsmith's work if not in architectural carving, being modified to suit the material in which the goldsmiths wrought; and, as has been pointed out by Mr. W. J. Anderson in the book which he published some four years ago, the enrichments of the earlier Renaissance buildings were such as would be designed by jewellers rather than by marble masons.

It has become customary of late to consider the Renaissance architecture of Italy territorially as of three great types, Florentine, Roman and Venetian, each with its own broad distinctive characteristics, this division being accounted for alike by geographical and political considerations, and explained in a masterly manner by Mr Anderson, but it seems to be hardly possible to differentiate territorially in the same broad way about the ornamental details. In Florence, in Rome and in Venice, to say nothing of the smaller towns, there is the same low-relief carving inspired by designers in embossed, engraved and jewelled metal-work, the local differences being of a comparatively minor character, and generally due either to some peculiarity in the available material in which the work had to be executed, or to the idiosyncrasy of some particular designer. Thus, speaking generally, the intention seems in all cases to have been to fill the space to be occupied with ornament in a manner which should not obtrude itself or detract from the general design of the building or feature which it decorates, while giving an impression of surface texture when viewed from a distance, and while being also most pleasing in itself when inspected closely. Covering the whole space well, and raised upon a flat background, the carved decoration generally takes the form of leaves and flowers, with animals and birds occasionally interspersed, joined together by fine filaments in even lower relief than the principal masses, and all arranged in the form of graceful scrolls. In vertical panels and pilaster strips there is frequently a central stem rising from a vase, the pattern being symmetrical, but this treatment is by no means universal. As a rule the face of the panel is sunk and the relief of the ornamentation rarely exceeds the depth of the sinking, though this remark does not apply to frieze and tomb enrichments, which are rarely sunk within panels; but even within these limits there is considerable undercutting to give the necessary depth of shadow, this being practicable in so hard a material as white marble, which is almost invariably the material used.

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* A paper read by Mr. G. A. T. Middleton before the Society of Architects.

Another instance of the influence of the goldsmith is to be found in the frequent introduction along the central stems of vertical panels of vases and cups, themselves enriched with bead and leaf ornamentation. Superficially similar to this, but essentially different in reality, is the copyism in stone of turned and carved work in high relief, such as is suitable in woodwork—a style of ornament which is comparatively rare in Italy, but of which South Kensington Museum contains a fine example in a doorway from a palace at Genoa, and which is of considerable importance, as upon it is based a good deal of the earlier Renaissance carving of France and Belgium.

The presence of scroll-work ornament based upon either the acanthus or the anthemion is comparatively rare in the earlier work, though common in that of the unimaginative later period, when the leaves are generally found to be conjoined, delicacy giving way to richness and to gradually increasing obtrusiveness In place of these motifs, of classic origin, are found representations of natural fruit, the olive and the grape predominating, of natural flowers such as the poppy, of cereals such as wheat and barley, and of leaves such as those of the oak and vine. Birds are introduced with tolerable frequency, usually differing but slightly from the natural form; but speaking generally, when dealing with animate life the grotesque is much more common than the natural treatment. When used as sculpture the human figure is correctly rendered, but when employed in conjunction with scroll-work considerable anatomical liberties are taken for the sake of decorative treatment, and very beautiful as a rule is the result. Beauty, however, may hardly be said to be characteristic of the numerous dolphins and dragons with which the fertile imagination of the craftsman would often enrich his composition to its great advantage as a whole.

It may be noticed at this point that the dolphin and the scallop shell are found as enrichments in inland as well as seaside towns. Indeed the only enrichment which appears to be confined almost entirely to one locality is the winged cupid's head, which is frequently seen in Rome and but rarely elsewhere, while the comparative coarseness of much of the detail in Bologna is mainly due to the use there of terra-cotta in place of marble.

Besides the low relief decoration, of which there is a very large amount, there is also a smaller proportion of incised and inlaid work The inlay affected for external decoration appears to be metallic lead, which has a very good effect indeed against the white marble in which it is set, while a black composition is frequently used in a similar way where it is under cover Whichever be employed the pattern is almost invariably a repeating one, based upon a leaf of some kind, and the band of enrichment narrow.

The mouldings, whether of cornices, door jambs, panels or anything else, come as a revelation to one who has hitherto studied from books alone and has been inclined to think that the Italian Renaissance, in this respect at least, was bound within the strict traditions of the Orders. So it may have been a hundred years or so later than the period which we are now considering; but the fertile artists of the early period disdained to be bound by hard and fast rules—or probably were unacquainted with them—and evolved or developed just such mouldings as would give the effect they wished to the executed work. It must be admitted at once that when drawn upon paper the contours are not always pleasing; but then the mouldings were not intended to be seen in contour. Here more than anywhere else has the general idea of Italian work been wrong, that being most generally commended which has conformed most closely to the Orders as laid down by Chambers and Vignola, whereas that is the least commendable, the least original, the least adaptable to varied circumstances. It is not too much to say that the art of mouldings, as understood by the workers of the early school of the Italian Renaissance, needs to be relearnt, and that from the craftsman's and not from the draughtsman's standpoint.

In the enrichment of mouldings, however, classic forms were closely followed The egg and dart, the egg and tongue, the leaf and tongue, the bead and fillet and the dentil, all recur again and again, often varied in some small particular, it is true, but also often of almost Roman purity—evidence that, given certain mouldings, such as the ovolo and cyma, the Greeks and Romans had evolved the most satisfactory enrichment for them, and that this fact was insensibly admitted by their successors of the Renaissance, to whom they had been handed down with scarcely a break of continuity.

In point of decorative importance the metal-work of Italy does not rank much behind the carving, if at all. Of the cast bronze work it is not necessary to say much, as the principal examples, such as the gates to Sansovino's Loggia and the well-heads in the courtyard of the Doge's Palace, both at Venice, are well known and universally admired for the marvellous workmanship they display as well as for their beauty—in spite of the redundancy of ill-connected ornament. But of the wrought-iron work it is different, inasmuch as there is a great deal of it of which but little has been illustrated, while the collections at the Birmingham and the South Kensington Museums are by no means so well known as they deserve to be. And this iron is remarkably well worth studying, differing in some important respects from the ironwork of other countries and of other dates, and from that of Italy itself in the later period. In this it follows much the same course as does the carving, the earlier being the more original, instinct with inspiration, and later conforming more to ordinarily accepted precepts, and comparatively tame even when beautiful. After careful consideration, and recognising the origin of the earlier carved detail, one is irresistibly driven to the conclusion that the source of the patterns of the early ironwork is to be found in the twisted wire ornaments of the goldsmith, so very much of it being the natural outcome of the use of the pliers and the pincers rather than the hammer. Much of it is of great intricacy and curiously unconstructional, and yet of a character such as would be perfectly permissible, æsthetically speaking, if executed in wire and on a much smaller scale.

Of the Renaissance enrichments generally, and particularly those of the period mainly under consideration to-night, it has been said that they are liable to be degraded—to be used as patterns for mere embroidery. As to whether this be degradation there may very well be two opinions, for a well-designed home should be furnished with well-designed accessories, and the result of using designs based on good models would be more likely to elevate the accessories than to debase the models; but whatever may be said upon this point it cannot be questioned that these enrichments embellish the buildings to which they are applied most suitably, most unobtrusively, and altogether admirably.

LIABILITY FOR PAYMENT FOR QUANTITIES.

THE following important judgment relating to the liability for payment of quantity surveyor's charges was lately delivered in Dublin by Chief Baron Pallas, and concurred in by Mr Justice Andrews and Mr. Justice Johnson, in the case Northcroft *v.* Delany. The architect of the building was Mr. Brunton. His lordship said:—

It is an action by a quantity surveyor against a builder to recover his fees, which amount to 169*l* 15*s*, for taking out quantities in respect of certain contemplated alterations in the Victoria Hotel, Cork, for which the defendant had sent in a tender which, subject to certain modifications, had been accepted. The value of the works actually done by the builder on the contract, and for which he was paid, amounted to no more than 168*l* 4*s*. To this amount the architect added 169*l*. 15*s*., surveyor's charges, the amount that is now claimed, and gave a certificate for the sum of those two amounts, 337*l*. 19*s*. The owner paid the defendant 168*l*. 4*s*, but did not pay him 169*l*. 15*s*, which is the amount that is now in controversy

The contract between the building owner and the defendant builder is contained in certain written documents, viz. a tender of the defendant and certain bills of quantities, and the general conditions which constituted the offer of defendant; a letter from the architect to the defendant of June 13, 1898, accepting the defendant's tender, subject to the modification that only such portions of the work should be proceeded with as the owner might determine; and the reply of the defendant of June 18, in which he agreed to the terms of the last-mentioned letter. The material portion of the bills of quantities on which the question arises is this. At the foot of the summary of the bills of quantities, which bring out the total of 5,857*l*. 18*s*, these items occur:—"Surveyor's charges, 2½ per cent. on above amount, to be paid with the first instalment, 146*l*. 10*s* For copies of the quantities, postage and incidental expenses, 27*l* 5*s*"

Then we find that the 5,857*l*. 18*s*. is reduced to 5,701*l*. 5*s*, and the surveyor's percentage is reduced from 146*l*. 10*s*. to 142*l*. 10*s*, this sum with the 27*l* 5*s* making up the amount for which the action is brought There is a clause No. 24 in the general conditions which provides that the certificates are to be issued for 75 per cent of the value of the work which has been executed in accordance with the contract when such work amounts to the value of 500*l*. or over, and this clause has been relied on by the defendant to show that the certificate is not a valid one. I refer to this for the purpose of saying that in the view I take of the case it is altogether unnecessary to determine the question I am prepared to divide the case as if there had been no modification of the tender whatsoever, as if it had been accepted without change and a proper certificate given under the contract.

The bills of quantities and the general conditions on which the defendant tendered were handed by the plaintiff to the architect. There was not before the contract between the defendant and the owner any communication either oral or written between the plaintiff and the defendant, nor, in my opinion, is there any evidence that in delivering the documents to the defendant the architect acted as agent for the plaintiff. It was as agent of the owner that the architect employed the plaintiff to make the calculations. It was as agent of the owner that the record of the calculations was handed to him, and I hold that it was as agent of the owner that he forwarded a copy to the defendant and invited him to tender, just as it was as agent of the owner that he discussed with the plaintiff the modifications of the contract and ultimately accepted the tender as modified.

The plaintiff's case is that, from the tender of the defendant upon the bills of quantities containing the clause I have mentioned, and the acceptance by the owner of that tender, there is a legal implication of a contract between the defendant and the plaintiff to pay the plaintiff this sum of 169*l* 15*s*. from the amount of the certificate, and that, therefore, he is entitled to recover that sum, or at least 168*l*. 4*s*, the sum actually received by the defendant.

The defendant, amongst other contentions—and this is the only one I propose to consider—says that no such contract is implied by law. A number of cases have been cited, and it seems to me convenient to dispose of them here. As there was not before the contract any communication between the defendant and the plaintiff, or any person on his behalf, Campbell *v.* Blyton and Taylor *v.* Hall do not apply No evidence was given at the trial of any trade usage, and therefore Young *v.* Smith and North *v.* Bassett are not direct authorities None of the cases relied on by the plaintiff directly touch the matter in controversy. There are, however, in one case, that is the decision in Priestley *v.* Stone, some observations of Lord Esher which very strongly support the view I have taken upon the character in which the architect acted on receiving the quantities from the present plaintiff

"There is," says Lord Esher, "a contract between the architect and the man who takes out the quantities. The architect employs that man, and he is to pay that man. Therefore the contract, if any, is between the architect and that man, or between whoever is the principal of the architect, if there is a principal, who is authorised to do such things and that man, and that is the only contract. Now what is it that the man who is employed to take out the quantities is employed to do for the architect? He is employed to take out the quantities for the architect and to give those quantities to the architect, and he has no control over what may be done with those quantities, he has no knowledge of anybody to whom these quantities will be shown. At the moment he has given the details to the architect, the architect and his employer may change their minds as to the plan, may reject those quantities, may never use them and may never offer to anybody a contract based upon them at all. The man who takes out the quantities has no possible means of knowing whether those quantities will be shown by the architect to anybody, and certainly not to any particular person."

Therefore we have two matters to consider. We have, first, an independent contract between the building owner and the plaintiff as surveyor, that he, as surveyor, will take out these quantities. There being no usage of trade that is applicable to that contract, the only implication of payment that can arise from the surveyor's employment is that he should be paid a reasonable amount, or if you will, 2½ per cent. by the owner. Taking that contract as it is, and irrespective of anything else, the duty of the plaintiff would have been completed upon handing the document to the architect as agent of the building owner, and those documents would be, as it seems to me, in the architect's possession as the agent of the owner, with a right on the part of the owner or of the architect as his agent to do what he liked with them and to show them to any person just as he might do with anything else that was his own property That is the first step. Secondly, there is a separate and independent contract between the building owner on the one side and the builder, the defendant here upon the other, and every liability arising out of this contract is due from one of those contracting parties to the other. Taking that contract *per se*, whatever provision there may be in it for payment of any sum of money to the plaintiff, it cannot apply to the defendant, but I can quite understand how in a proper case in which a sum of money has been recovered on a contract of this description and not paid over, an action might be brought by the builder for breach of this contract, but so far as I have gone I think it would not be contended that *per se* any other person could sue on that contract.

The cases of Young *v.* Smith and North *v.* Bassett have been relied upon as showing that a liability in favour of the quantity surveyor may arise in relation to such as I have mentioned, but not merely from those contracts but from such contracts taken in connection with such a trade usage as was provided in North *v.* Bassett and Young *v.* Smith; and here incidentally I may say that I so entirely approve of the decision and reasoning in North *v.* Bassett that I shall be prepared to follow it in every case to which it is applicable, and that in my judgment it is in no sense inconsistent with the decision in Priestley *v.* Stone. That case, Priestley *v.* Stone, was decided on the first of the two contracts to which I have referred—that is a contract between the building owner and the building surveyor. It was under that contract that the quantities were prepared; from that contract alone could arise the duty of the building surveyor to use due care. There was no pretence in North *v.* Bassett of making the builder a party to that previous contract, but North *v.* Bassett is grounded on this, that by reason of a trade usage the employment, though at a time long prior to the building contract of a quantity surveyor—that is, at the time of the acceptance of the tender—gives rise by reason of the contract and the trade usage to a third contract, a contract long subsequent to the date of the contract in Priestley *v.* Stone—that the quantity surveyor may recover against the builder.

Therefore in my opinion the difference between the two cases is that the decision in the first is upon the first contract and in the second upon the third contract. Reading North *v.* Bassett as I do, it follows that the part of Hamlet is here wanting. There, there was in evidence the existence of a usage which has not been proved here, but counsel contends that this usage, which was made the basis of the decision there, cannot be a material element, because, he says, usage is insufficient to create privity between parties between whom otherwise there would be no privity. My view is that this is the very thing it does. Take two contracts such as these:—A agrees to pay B 100*l*. B agrees to pay C 100*l*. C cannot sue A, although C must be the one of the three parties who ultimately is the richer by the 100*l*, and A the person who ultimately must pay. But C cannot sue because there is no privity of contract, as the parties have not come together and agreed upon the same subject matter. But take the case of these three parties coming together, A owing B 100*l*. and B owing C 100*l*. The three parties come together and C agrees to accept A instead of B as his debtor, and A agrees to pay C. Nothing then remains but the contract that A is to pay C 100*l*., and this is effected by the three parties coming together and agreeing to common terms. The same thing may be effected by a trade usage which, in my opinion, operates in this way, that the parties agree to act upon the usage of a trade, and if the trade usage be that the liability is transferred from one person to another, the parties do by trade usage exactly the same thing as otherwise must have been done by novation, or by express contract to that effect.

For these reasons I think that, there being evidence of trade usage here and the two contracts therefore remaining distinct, we are bound to hold upon the evidence before us that the liability to the plaintiff here rests upon the building owner and not upon the builder.

TESSERÆ.

Pompeii.

IT is not melancholy that affects the visitor as he traverses the streets and intrudes into the houses of Pompeii, for all is meretricious, though elegant vanity, that glares upon every side: it is not awe, for neither in their original proportions nor in the detail of the buildings is there any pretensions to grandeur in this city of Hercules. Curiosity is the prevailing sensation, and that is just sufficiently gratified to be tantalised. Antique, without being venerable, Pompeii wears a most unhappy aspect, and Time has amply indemnified himself for the compulsory arrest of his ordinary process by maliciously revealing her original voluptuousness in painful contrast with her present decay. Wandering through streets little wider than the back lanes of our provincial towns, and roaming from house to house, whose mean dimensions are encumbered with mockeries of those majestic diameters which still survive in Athens and in Rome, the eye is at once invaded and offended by a wilderness of colours, which, even in the freshness of their early glow, and notwithstanding their graces of design, must always have been gaudy. Littleness and prettiness must always have been characteristics of Pompeii in her most palmy state; now the littleness remains, but as for the prettiness it has vanished It is no great stretch to say that it seems more like the model of a Greek town than the town itself. Villas, temples, theatre, forum, all elaborate of littleness, seem built to be beheld, but never to be inhabited Doubtless this city of the demigod suffers every disadvantage from the circumstances under which it meets the modern eye. The vaulted ceiling, the draperies in dusky luxuriance, which no longer mitigate the startling violence of those scarlets and yellows and greens must once have enhanced their magnificence, and mellowed down the glare of those ornamental paintings which undoubtedly were solely intended for the soothing medium of such glimmering and subdued lights. They seem designed to receive a perpetual twilight, such as the brilliance and heat of a Neapolitan atmosphere made necessary for comfort, and thus would communicate a species of gorgeous gloom all the day long. And if with venial partiality we compare these little inconvenient edifices with the united grandeur, beauty and comfort which distinguish the architecture and arrangements of modern habitations, still, while beholding the exquisite loveliness of their pictorial designs, and their divine delineations of the human form, "Gods that with heroes leave their starry bowers," we must admit that if in the one instance we have left them immeasurably behind, we have but imperfectly kept pace with them in the other. At any rate, it is something to have trodden the atrium and reclined in the tablinum where Cicero and Atticus conversed and feasted, wrote and read; to have paced the very stage where Æschylus and Sophocles bade "Gorgeous Tragedy with sceptred pall come sweeping by," and to have identified oneself with the multitudes who in this very spot turned pale at the demon chorus that shook their snakes and torches round the couch of the haunted Orestes, thrilled with admiration at the filial piety of Antigone, or softened into tears at the heroic self-devotion of Alcestis. All this we owe to Vesuvius. But for his fiery deluge we must to the end of time have been content to trust the technical canons of Vitruvius, or the graphic descriptions of Pliny, for those minute details in the domestic economy of the classic age which so strikingly illustrate the pages of its poets, and impart a more familiar tone to its historians themselves.

Mechanical and Decorative Construction.

The eye, even of an unpractised observer, when viewing a magnificent building, is never satisfied unless the weights appear to be duly supported, and it receives a corresponding pleasure when that is the case. Hence in all complete styles, part of the decoration is made to represent some kind of construction, and the more completely this is effected the more satisfactory becomes the result To be sure this apparent frame is often totally different from the real one, but so long as the inconsistency is concealed that is matter of no consequence. It appears then that there are two things to be observed in the construction of a building; how the weights are really supported, and how they seem to be supported. The first is sometimes called the mechanical or actual construction, and the second the decorative or apparent construction, and it is necessary to make a strong distinction between them In the decorative sense it is allowable to speak of shafts sustaining weights which are really held up by their connection with the wall behind, and which would, and often do, remain in their place, the shaft being removed; so entablatures rest on columns when they are both merely represented in relief upon the walls; architraves must be proportioned to the apparently superincumbent wall, which in reality is sustained by an arch turned behind the plaster or marble covering; in short, the whole language of description must be applied to the connection of parts as they appear to the eye merely. The mechanical construction is no less important, and above all should be observed the artifices by which it is concealed and adapted to what is very often a totally different decorative construction.

Raphael's Cartoon of the "Beautiful Gate."

There are manifest indications that Raphael did not design the architecture of his composition without reference, directly or indirectly, to the recorded plan and details of the place. We can easily recognise the suggestions of the historic notices, though with no intrusive affectation of archæological precision. In the ranges of columns four deep we have a detail adapted from the stoa basilica; and the subjects of vintage with which these columns are encircled are very fairly derived from the admission of a symbolical golden vine branching around the golden portal of the very sanctuary itself. The variegated marble of the pavement is to the same purpose and from the same source. For the rest, the architecture is treated with freedom enough. It is in paralleled perspective, and the plinths of the bases of the nearest columns are close up to the base line of the picture. The painter has taken two of these columns in such a way as to frame in his principal and central group, and to give a vista directly down the four pairs of columns to a doorway indicated at the back, where a lamp burning during the daylight indicates a sacred precinct. To the right is another parallel range of columns in the same direction, and by all architectural analogy the lateral spacing of these should be the same Regularity here, however, would have carried the nearest just beyond the limit of the picture; this evidently was thought undesirable, and nothing remained but either to modify the regular spacing by bringing the central columns nearer together, which would have contracted the space for the chief group, or to take a liberty and leave the responsibility to be divided between the architecture and the perspective, and this was the course adopted. The most natural interpretation of the architecture is, that Peter and John are standing between the two columns by the angle of a tetrastyle portico, of which each front column was the first of a rank of four. This inference presents itself from the appearance to the left of rows of fourfold columns, at right angles to the plane of the picture, and most naturally appearing as the counterpart of the front. But besides the anomaly of the widely-spaced intercolumns, the doorway and lamp seem to imply a central vista, in which case we miss a row of columns that should have stood on the left. An old engraver introduces a base in position here, but Raphael had good reason for leaving out the columns. The pictorial result is most happy. The chief group is in an architectural frame, which aptly expresses the scene at the decorated entrance to the temple. The columnar magnificence of Herod's porticoes is expressed in the files of columns in perspective, with fanciful capitals and enriched shafts. The termination of the colonnade to the left gives an openness that relieves the scene from oppressive confinement, while a fresh breeze seems to blow in from the landscape glimpse of the Mount of Olives in the distance. On the right hand the more contracted columniation, by whatever license it is obtained, enhances the importance of that in the centre, and the getting one more front column into sight helps to carry the colonnade easily out of the picture.

Appreciation of Architecture.

It is curious to observe the different views respecting the relative merits of the different architectural styles. It would seem that some persons are able to appreciate that style only which manifests completely some one distinct principle; as, for instance, the Classical architecture of Greece in its purest form, or the Gothic in its most perfect phase. Again, a great many persons find most satisfaction in architecture at that stage of progress in which the opposite principles of the Gothic and Classic styles exhibit a nearly equal degree of ascendency, such as is the case in buildings of the tenth and eleventh centuries. So many, indeed, are the differences of opinion on architecture, æsthetically considered, that it may be asserted without fear of contradiction that there are as yet no universally received principles of architectural excellence which would exclude any style from a fair degree of admiration. We must therefore take a more liberal view than any of the above, and admire architecture in every one of its phases, until some reason has been shown why one mode of decoration is better than another, or why one set of rules for determining the relative proportions of the various parts of a building should alone be followed. Where, however, the mechanical construction of a building has been attempted to be displayed decoratively, but in a manner not in accordance with the science of mechanics as regards the positions of the members, or in respect of the relative proportions of the different members considered with reference to the weights which they either apparently or really support, or the lateral or diagonal thrust which they are intended to counteract, then we cannot consider that the architect has been successful.

The Triangle and Proportions in Architecture.

It is æsthetic power or architectural genius alone which gives real life and spirit to a work, and an artist may, by the eye alone, fall in the main upon true proportion. And although character—and to a great extent even proportion—is capable of imitation, yet if perfect harmony of proportion can be secured by rule—by a rule which will not cramp his powers of conception—why should not a man avail himself of it? or rather, how is it that he will not with all his might search for it in order to assure himself that, however deeply he may feel his own deficiencies, and however far his work in execution may fall short of his full desires and expectations, yet there still will be something in it upon which the most refined taste may dwell with pleasure and satisfaction? As a practical matter is it not an advantage that the use of the equilateral triangle, for instance, prevents one from falling into such proportions as have quadruple relation to each other? It is a fact that artists universally avoid halves, fourths and eighths, in placing any important line or prominent feature in a picture; and they often have recourse to the expedient of taking thirds and fifths for this purpose. And while a certain harmony is secured by employing reduplications and subdivisions of the equilateral triangle, yet the avoiding of such quadruple (and even numerical) relations is thereby attained, because the perpendicular or height of an equilateral triangle can never bear any exact numerical proportion to its base. This proportion must always be expressed by a surd root, and the same may be said of the diagonal and one side of a square. And it is the fact of these fractional proportions working out to such accuracy in old work that constitutes the proof that that work was actually at the first set out by such proportions. Men might, without any system of triangles or squares, employ a number of dimensions which bore direct and perfect numerical proportion to each other; but it is morally impossible that they should by accident have lighted continually upon those very fractional proportions which triangles simply and adequately account for.

NOTES AND COMMENTS.

M. Emile Trélat, the French architect, and director of the well-known school of architecture on the Boulevard Mont Parnasse, Paris, has called attention to his recommendations in 1887 for fireproofing scenery. He says that the late Charles Garnier adopted precautions for rendering the scenery in the Opera House uninflammable, and had reason to be satisfied with the results. One class of substance employed were salts having a soluble base, such as the silicate of potash. But they were said to be difficult to dry, and the scenery on which they were employed was always damp and collected dust, by which the colours lost their original character. Others were mixtures with an earthy base, like the phosphate of lime, which combined with the colours and then fell away in dust. Similar objections, however, do not apply to the borate of soda, the tungstate of soda and ammonia, &c., which had been used with advantage. Charles Garnier used to overcome the difficulty by applying the mixtures to the back of the scenes, where safety was secured without any danger to the painting. For a stock of scenery like that belonging to the Paris Opera House the cost of safeguarding would be considerable. M. Guimet proposed that only new scenery should be treated, when of course the expense would be insignificant if compared with the safety which was obtained. M. Berthelot, the chemist, considered that conflagrations were inevitable in theatres, and since in the majority of cases fires break out among the scenes, all paintings should be protected to the fullest extent which science can discover.

It is remarkable to find Mr. Ruskin's name cited in an official document, and especially one relating to a military officer, viz. Major T. W. Symons, of the United States Engineers. He has acted without fee or reward as a member of a committee of five experts appointed to report on the canal policy of the State of New York. ithout his aid the labours of the committee might have been of little value. Accordingly the Governor of the State thought it his duty to inform the Secretary for War about the Major's disinterested work. In the course of his letter he says:—"Ruskin somewhere points out that where work is done for a fee it is rare indeed to find it really well done, because all really great work, all work which makes the whole community a debtor, is done by some man to whom the work itself is the reward and the doing of it the fee. Such has emphatically been the case with this work of Major Symons. For ten months he gave his spare time to the service of the State of New York without any reward whatsoever, performing a task which probably could not have been performed at all by any other man, and which, if paid for, would have cost the State many thousands of dollars. The only reward he can be given is the hearty recognition of his disinterested and public-spirited labour." It is needless to say that on the subject of fees Mr. Ruskin was not consistent. If he advocated honorary services at one time he was no less confident at other times that services should be rewarded at a liberal price. He was once so convinced of the universality of the principle that he resolved to demand not less than a guinea for every copy of his pamphlets, no matter how few were the pages.

ILLUSTRATIONS.

WESTMINSTER ABBEY: NORTH AMBULATORY FROM STEPS LEADING TO HENRY VII.'S CHAPEL. DOORWAY IN CHAPTER-HOUSE. ARCADE IN CHAPTER-HOUSE.

THE most important object in that part of the north ambulatory which forms the subject of our illustration is Queen Eleanor's tomb. The queen was described as "Mulier pia, modesta, misericors, Anglicorum omnium amatrix." Numerous as were her virtues while living, there is no doubt that after her death she can likewise be credited with giving employment to some of the most capable workers in stone to be found in England. She died at Harby, in Lincolnshire, and her body was brought to London. Twelve beautiful memorial crosses were erected to mark the resting-places of the funeral procession between Lincoln and Charing. By a curious custom which prevailed in the thirteenth century—the queen died November 29, 1291—a part of her entrails remained at Lincoln, her heart was given to the monastery of the Black Friars in London, and the rest of her body was interred in Westminster Abbey. The tomb is remarkable, but well adapted to its purpose. A principal feature is the arcade, containing shields which were duly emblazoned with heraldic colours, a record that was indispensable with a Spanish princess. The pillow which supports the head of the queen also suggests Her Majesty's greatness, since it bears the lions and castles which represent Leon and Castile. The effigy of Eleanor and the bronze work in the upper part of the tomb are the work of William Torel, a goldsmith of whom the City of London should be proud; some believe he was a naturalised Italian. The very elaborate screen was wrought by Thomas of Leghton, and the painting in the lower panel, of which some slight traces have survived, was executed by Walter of Durham. The tomb was therefore a record of the condition of English art, as well as a memorial of the first wife of Edward I. and his companion in a Crusade. It is needless to say the canopy over the tomb is of a different date. The king arranged that on each anniversary of Eleanor's death one hundred candles were to be lighted about the tomb, and one of the oaths which was sworn by each Abbot of Westminster on his appointment was to uphold the illumination.

HOUSES AT BECKENHAM.

THESE villa residences have lately been erected at Beckenham, Kent. The accommodation of each villa comprises a drawing-room, dining-room, study, kitchen and the usual offices on the ground floor, and four bedrooms and bathroom on first floor. The lower front was executed in red brick, with half-timbered work and rubble above, and the roofs covered with red tiles. The architect was Mr. F. G. Grierson, of Imperial Buildings, Ludgate Circus, E.C.

NEW LAUNDRY, HOLBORN UNION SCHOOLS, MITCHAM, SURREY.

THIS laundry was recently erected at Mitcham schools, for the Holborn Board of Guardians. The accommodation comprises receiving-room, foul washing-room, general washing-room, officers' washing-room, drying-room with drying-horses, ironing-room and packing-room—all in rotation and communicating. Also boiler-room, with two Richmond boilers, and engine-room with Tangye's engine. These latter are placed in the centre of the block to distribute heat and power from a central position. There is also a girls' washing-room. Most of the machines were Bradford's. The building is of brick, with steel principals and louvre openings in roofs, glazed by Pennycook, the floors being paved brick or wood-block paving. The total cost was about 9,000*l*. The contractors were Messrs. H. Wall & Co., and for the engineering Messrs. Benham & Sons, the architect being Mr. C. Evans Vaughan, F.R.I.B.A., 11 Adam Street, Adelphi, W.C.

HOUSE AT REIGATE, SURREY.

THESE plans and perspective show a small country house lately erected at Reigate. The view to the south was undesirable; hence the principal rooms were arranged to face in a northerly direction. The wall of porch over entrance facing south was utilised to take a Portland stone vertical sundial. From ground level to first floor local red bricks were employed, with Brown's moulded for plinth, string, caps, &c. Solid timber-work, tarred to a dark colour and filled in with red brick, and other portions treated with pale yellow rough-cast, form the upper part of the building. The red roof-tiles are of Ashford manufacture.

The builders were Messrs. C. Nightingale & Sons of Reigate, and the architect Mr. C. E. Salmon, Bell Street, Reigate.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. G. H. Fellowes Prynne, president, in the chair

The proposed alterations in the by-laws were carried unanimously

Messrs G. Drysdale and O. R. Goodman were elected members

Mr. H. C. Corlette was reinstated a member.

A vote of thanks was passed to Messrs. Farmer & Brindley for allowing members to visit their workshops on March 10 A second vote was accorded to Mr J. S. Chapple for a donation of twenty-seven models and casts of foliage, &c., made for work executed by the late William Burges, A R A.

Mr. H. C. Corlette read a paper on

The Decoration of Churches.

It is necessary that in decorating a church we should subject our scheme to some one ruling principle—one which shall enable us to keep always constantly in view the effect we may desire to produce? And by effect I do not mean merely an effect from the æsthetic point of view, but without disregarding this, from that of a creative impression. By a creative impression we should understand that one result the whole produces upon the responsive spectator You know well enough how externals affect the mind and whole being of anyone who finds himself confronted by them And it is almost trite to say that we are expected by each opportunity to express by means of architecture those feelings which are most required by the end for which the work has been begun And so, is it not necessary that we try first to make men feel by their surroundings that they are before a Presence which should at once call forth a reverent attitude of mind? Let us then have a breath of reverence first amid all the beauties you may devise. With such an end in view it will be necessary to avoid the theatrical, the striking, the bizarre element in all decoration that may be used.

It is not easy to arrange the various ways in which the subject may be approached architecturally. At least not if you try to attack it by any orderly method. Under the first division of the subject I separated it into two leading aspects. And under the second of these – the architectural—there seem naturally to fall three sub-sections.

Under the first of these we had better, perhaps, consider the treatment of simple structure decoratively. That is, by the use of such colour as may well be introduced in the necessary parts of the building. In the next the application to that structure of a simple and partial scheme of decoration, adopting largely only conventional pattern design or diaper and such like ways of introducing what is required And under this heading might also be included the use of colour, sparingly, in the windows, on the floors, the roofs, and in the furniture. Then we might permit ourselves to be more lavish and think of a complete scheme for a fully decorated church But the two latter will probably lend themselves better to our purpose if they are not treated quite apart, but as merging the one into the other.

But how shall we decorate our churches? With what means, what materials shall we set to work? The list of methods is almost without end It may be of some use to survey the catalogues and venture any remark or suggestion that shall occur

And for convenience I shall give you heads and subdivisions, so that we may, to a certain extent, be methodical Broadly, we have to consider surfaces horizontal, vertical, on the slope and on the curve. Such as for instance:—

1. Flooring, and the things about the same level to be used as the furniture of a floor.
2. Walls, flat or with arcades and windows, in light and shade
3. Roofs, including wood or stone vaults, domes, open timber work.
4. Light, natural and artificial.
5. Furniture, such as the font, seats, pulpit, organ, screens, altar, reredos, &c
6. Specially decorated parts of the structure.

Under the heading "furniture" and "decoration" it will be possible to introduce any remarks about the second and third main divisions of that part of my paper which deals with the purely architectural aspect of the subject.

Let us take the floors first.

The unredeemable hideousness of the present day encaustic tile, with its bilious yellow art shade, its pinks and blues that stare with such effrontery—these are as a rule too terrible to think of. They make your flesh creep when they cross your line of vision, and send a dart of unsympathetic clamour direct to the seat of all your positive sensations. There is surely no reason why glazed tiles for a floor surface need be so grossly vulgar as they often are. But they are cheap. They may easily be procured. They satisfy the untrained taste of those who demand showy brilliance and cheap tawdriness in place of quiet ease of colour and repose. They leap at you when they should lie prone upon the floor, of which they should be a part, not a mere ruse to attract our eyes to the region of our boots. Above all things in treating a pavement let us endeavour to keep it where it is Let it lie. Don't make it restless. Not too startling, like a thing ready to meet your gaze half-way. It may be very beautiful, but, at the same time, if coloured the colours should not wrestle with each other. They may be many, but in effect they should be one.

The flooring may be of wood. But as we are thinking of the decoration that it is possible for us to get by a thoughtful method of dealing with it, it is not necessary to dwell at length upon the ordinary boarded floor, except to remark that, if the woods were more easily available it would be possible to discover many a fine and quiet beauty in the various textures, the grain and the colour of several varieties of wood used simply as well-set boards. They might be polished or not. Wood, too, is better in northern latitudes for this purpose, because it is not so cold as any form of flagging or tiling. But in England we do not see the floors of our churches as they do across the Channel. For we are wedded to the formal, long, depressing line of fixed benches, or to ranks of cheap chairs hustled together and screwed up to keep them quiet and in place. Perhaps in some respects it is well so For order is truly better than noisy muddle The long horizontal lines of bench certainly do not usually help the architectural treatment as a whole. Chairs are better, for they are more in sympathy with the prevailing lines of Gothic art Let us accept, then, the fact that for the present the greater part of every nave floor is to be permanently hidden from view, except we wait and study it in the dips between the edgy waves of wooden seats. Then what have we left us which may, without futility, be dealt with by design? There is the space about the west end. Large it should be. Then there would be scope for your energy and room for our feet, and we should not feel that commercial considerations had overruled those of decent order and dignity. There would be space for the font to stand free and unencumbered, so that it might speak what it may well say both by its use and the beauty of design in which it may have been conceived. It would not then be hustled into a corner, which it is made to seek as a resort, as if it were a thing of comparative insignificance. Give it place and give it dignity Let us show that by our treatment of it we know its use and respect the purpose for which it is required

There may be a porch or porches And it seems reasonable to suggest, if these are to be paved with thoughts, that those thoughts should be related as introductions to those that shall be found within the inner doors.

We are still dealing with the first idea, the use of simple materials And for a floor there are many such that are always available. The use of boards or wood blocks for the body of the church which is covered by the seating seems to be the suggestion offered by common sense, for a reason already stated. But in the aisles or passages, and for the choir and sanctuary floor, something more interesting is required. It is not necessary to discuss tiles further And the many patent flooring materials may speak for themselves to those who have experimented with them. Some are inoffensive enough. But many are rather trying in their dulness, so far as colour is concerned and lack of interest otherwise. Plain stone flags, or a broad use of two, or at most three, different colours in any materials—either of these ideas can produce happy results. But there seems to be a common fault among us by which we too much incline to cut up the floor surface into little patches We use too small a pattern, or without any pattern we divide the pieces into diminutive parts which increase so largely the cost with no compensating effect. Quite the reverse. We derive this peculiar tendency, no doubt, from the influence which modern tiles have exerted upon us. It would be preferable to see the mistake made in the other direction where the floor is concerned It would help us to be rid of the analytical, the too logical and mental view of things, and urge us to quit the habits of a fly and adopt by preference those of the eagle. We should be freer, more imaginative, more comprehensive in looking at things then. It does not do in architecture, or in any work connected with it, to dwell too much on detail before a general idea has been conceived, so that some attempt may be made to work up to it. By following this method details would be kept in place, and always subject to the effectual combination of the several parts.

Any pavements in the body of the church are undoubtedly best kept in relation as a unity. There should be some kinship both in colour and design. They should not be dealt with in the different parts like separate families, each opposed in aim and idea to the other, and all the pieces composing them quarrelling among themselves.

Those, too, in the choir should bear some link in their design which binds them in their relations on two sides. First to the nave and next to the sanctuary. It is consistent, too, with the principle evident in the design of the Jewish tabernacle that we should increase the value, the beauty, the significance, and the rarity of our work as we approach the most important part of the whole undertaking. For the sanctuary should be architecturally, as it is liturgically, the most important centre of all our ideas. Therefore it follows that we may endeavour to express more thought by our work at this point. And as a consequence the work in the sanctuary should, in the same respect, differ from that in the choir.

Before quitting the subject of floors, it is natural that some reference should be made to the use of carpets or rugs, or both, in the sanctuary. These may be very beautiful accessories, but they may be, they often are, hideous excrescences when, as is so often the case, they are ill chosen both for their pattern and colour. This trouble frequently happens because, at the last moment, if you are dealing with a new church, just before the dedication some well meaning person comes forward and offers to provide these carpets. A worthy but untrained churchwarden sallies forth and selects an expensive object, never thinking of what may be its ill-assorted relation to any other decorative furnishing which should be, though it too often is not, in the care and under the direction of one skilled man. This man ought to be the architect, the child of whose brain the whole work is. He looks at it as a whole, hopes and designs for it as a whole. And when such thoughtless acts as these are committed they cut his whole treasured framework across the spine, and his unity—by one deed of thoughtless generosity—becomes a broken aim.

If we are limited to the introduction of only so much decoration as can be obtained by the materials of the structure, and the means usually adopted for their preservation, such as painting or oiling the woodwork, we already are possessed of an ample opportunity. Say we were to use brick. Need all the bricks be the same colour? Need they be merely laid side by side, bed on bed, with no more thought than is required to set them truly in bond? Surely not. If you have decided to use brick for your walls, it is of course possible to use it throughout for the piers, arches and windows. But may we not provide a welcome contrast by showing the brick in the mass, and plastering some of the detailed portions of the composition? Or the idea might be reversed and the mass plastered, leaving the details to show the essential materials. And this use of plaster as a really beautiful material should commend itself more to our minds, if it has not already a very high place in them. Think what the Byzantines and the Mediævals did with plaster, even when it was not coloured. Especially in Belgium there are remarkably fine instances of the value of plain plaster as a finishing material for broad surfaces devoid of actual colour hues. But is there no colour in the play of light upon plain white surfaces of ever varying tones of grey shades? In strong sunlight they take to themselves tones of pale gold if the windows are glazed with clear glass. When the clouds are heavy the shades of colour deepen into transparent purple grey. If you would study the use of plaster there is, as I have said, plenty of it, and of a variety of colours too, to be seen in the work of the Mediæval Belgian architects. There you see it used in conjunction with the purely Gothic treatment, which was one of lines rather than surfaces. But if you would see it applied to other forms go to those most interesting domed churches in the south centre of France. There it will be seen introduced in buildings which are remarkable for their simplicity and breadth—if they have not been too much "restored." They are churches, too, which are conspicuous for the idea of quiet strength which a large unbroken space conveys. And they contrast with the more northern work mentioned in being treated rather for surfaces than lines. They naturally provide an opportunity for using applied colour on those surfaces; but of this I hope to speak later.

Then, again, are we limited to brick or to brick in conjunction with plaster? Certainly not. Externally we may use any combination of materials which are able to make themselves offensive to the assaults of climate. But it is not my intention to deal particularly with the decoration of churches so much from this point of view. The internal treatment is quite sufficient for one paper. But naturally the exterior lends itself to other methods, and is subject to the control of different principles from those which rule the consideration of interiors.

It is quite unnecessary to do more than remark that the use of stone allows us to adopt every variety of treatment for internal decoration. There is naturally a much larger choice in the selection of materials. For we are at liberty to use the softer as well as the harder stones without fear. And this provides an almost unlimited palette of structural colours. How and by what means they may be combined must be left to individual taste. But in using them we should never forget the value of texture, the quality and nature of the tooling adopted in finishing the surfaces. For it is upon this detail that the beauty of stonework so largely depends. A rough surface in the masses with a fine finish on details makes a great difference in the ultimate effect, even if only one stone of one colour is used throughout. Different stones of similar colour, or rather other shades of the same colour, produce wonderful results. And it is gratuitous to speak of combinations of dissimilar colours, for it is an obvious method by which we may gain what is required. Brick with stone dressings, stone with brick dressings, stone surfaces with plaster details, either white or coloured—preferably with the ground chippings from the dressed stone—or plaster surfaces and stone dressings, these are all familiar ideas.

The roof or ceiling of a church, however simple the structure, may well be used as a means of obtaining much decorative effect. We are able to do this by various ways. The mere arrangement of necessary timber will do a great deal if it is done with thought, not merely by following the customary dulnesses of a puerile text-book on what is called construction. If you do not show your wooden roof structure as a part of the design, but cover it up with a stone or brick vault, a plastered ceiling of brick, concrete, or wood, or a boarded one, much can be done with these. A stone vault with its moulded ribs should be beautiful in itself, even though the stone used be of the usual pale shades of cream or yellow. But need the ribs be the same colour, or even the same stone as the filling? And may we not sometimes use stronger, more positively coloured stones for a vaulted roof? If the ribs are of a different stone, or a different colour from the filling, at least the colour of them should merge into the ground of which they are the structural support, so that they do not unduly stand forward from it as assertive streaks. The same ideas apply to the use of bricks as stone, when we think of them from the decorator's point of view. A plastered inner ceiling, whatever be the support that carries it, may be dealt with in many ways. But it is sometimes a difficult material to deal with except we are satisfied with whitewash, which is truly most valuable. The great need, though, in using plaster, if we wish to finish the surface in a colour over the whole area, is to find some satisfactory tempera medium. By satisfactory I mean one that will not readily perish on new plaster. Or else we must perhaps seek the remedy in better plaster. If we succeeded in finding this it would be possible, without misgivings, to do some excellent but simple colour work by finishing in blues, reds and yellows, or rather golds, instead of being so much restricted to the adoption of the safer white and cream washes. It would be an easy matter to paint the plaster, but tempera seems the more natural medium to use in colouring it. And it is less expensive in first cost as well as for the labour and skill required to put it on.

With a boarded ceiling there is a wide field open to us. We can paint or distemper it at will, with little fear of the results if the boards are, as they must be, thoroughly dry. I am inclined to think that we should largely discard the use of oil paint when we may, except as a preservative, where decoration is concerned, especially in cities, where oxidation rapidly alters its colours. I am referring more particularly to cases such as those we are at present considering, that is, where the only decoration we may introduce must be a part of the necessary finish to some simple work. One reason for my saying that we should avoid the too frequent use of oil paint as a finish is because tempera, if properly used in a safe position, is more permanent. It retains the original brilliance of its hues longer, and they possess a more beautiful and transparent quality, like the freshness of water-colours almost when used as a ground to cover large surfaces. But for highly decorative work and pictorial work which is part of some decorative scheme, let us use every medium, every means by which we may with most security and success obtain the end at which we aim.

The roof, the vault, or the ceiling of a church—call it what you will—affords one of the best opportunities for simple decoration in colour that we can find. There is no need to make it always white. There is never any excuse for permitting it to be varnished, though it may with advantage be stained if of wood. The beauty of gold, that is, certain tones of yellow and orange, as a colour to be used as an open field of colour, all of us realise who have seen it in mosaic work. Blue, too, and red—the excellence of these we know as well. And the plain undecorated ground is often perhaps more satisfactory than one which shows more evidence of design in conventional forms applied to it. Reserve in the use of colour and design is often a means of discovering better results than can be obtained by allowing ourselves a looser rein to fancy. It gives us breadth, simplicity and dignity, as well as that much-needed quality—repose. And if we can be sure of these in our efforts we have already secured that which is most to be desired. Restless, fretting, disturbing combinations should most certainly be avoided. Abjure everything in schemes for decoration which is more an endeavour to show your own cleverness than to make the thing beautiful for its own sake. The best works of the past were surely produced more by unconscious than conscious efforts to do fine things. They were the spontaneous products of a natural capacity.

I have spoken about the walls of a church, but not of the windows in them. These seem naturally to suggest a few thoughts apart, for they introduce the important matter of light. And in this regard we have to think of two ways by which this essential property must be provided. By this I refer to natural and to artificial methods.

Let us think of these broadly for a moment before touching the decorative opportunities they supply There seem to be a few general principles which may be useful guides.

With little internal decoration we can dispense with clear glass in windows to a large extent, and make the glass itself, by its colour and design, serve as an important feature in the decorative scheme. But if there is much colour and design on the walls and roof inside a church we require plenty of light by which to see it. This principle the Byzantines frankly recognised. Again, in southern latitudes, where the light is brilliant and strong, a little of it is sufficient for practical purposes. And it is therefore possible, in fact desirable, to use very deep hues of rich colour in windows where stained-glass has been adopted. In northern climates, on the other hand, we cannot so well spare light, especially in smoky cities. So the tones of colour and the proportion of white to stained-glass have to be studied carefully, always bearing this idea in mind.

Other factors in decoration are the position of windows, their height from the floor, their size and their relation to the decoration, or decorated objects, within the building. The thought of prospect does not so very much matter, as the chief reason for the use of a window in a church is to admit so much light as is necessary under various circumstances. But aspect does matter a great deal. Especially is this so in hot climates. In these a large east window, unless it be a studded field of very deep-toned gems of colour, is most unpractical. Suppose yourselves in the body of a church and looking eastwards. Over the altar and reredos there is a large or even a small window designed strictly in accordance with the traditions of northern art It is filled with clear glass, or with the most hideous of all things, cathedral-tinted glass, or with stained-glass thin and weak in colour. If you can see the sanctuary properly under such circumstances and sit quietly without a positive feeling of irritation you will be possessors of remarkable eyes. The most sensible, the most truly artistic thing to do would surely be to provide the actual light required by the use of side windows in the chancel, and to treat the east window, if any, as an integral part of the reredos, and to keep it in the same scale of colour tones if possible. This may not be an easy task where you are obliged to make translucent colours combine, in unity of composition, with others necessarily opaque. Obviously, too, in localities where plenty of light is always available, the windows generally may well be smaller than where nature is not so prodigal. The reason for considering the relation of windows to decoration I have already briefly urged, and some thoughts concerning their position and size have just been suggested. But what can be said about the height from the floor at which they will best serve their purpose? Here we have a somewhat troublesome question And each individual building calls for its own solution of the problem. The character, the type of architecture imposed by conditions, largely decides such a point. For in a small country church they would not be placed so high up in the walls as in a building designed for a town, since the building should always reflect the character of its surroundings within certain limits that I need not mention. The windows in a town church approach the sky in search of the light which cannot be so well secured at lower levels. Consequently we are led to consider our decorative attempts subject to these altering conditions. Shallow saucer domes like those, say, at St Mark's, Venice, are best lighted at their springing level; but deep egg domes are most effectively illuminated from the top after the manner of the Pantheon at Rome. The whole value of the dome of St. Paul's Cathedral as a decorative opportunity is lost internally because of its lack of an efficient eye. And where domes cannot receive a direct light by either of these methods they are likely to prove unhappy expedients, so far as their decoration is concerned, though the difficulty may largely be overcome by allowing the windows near them to be filled with white or silver-toned glass.

It is necessary to attempt a few suggestions concerning the introduction of artificial light. And by artificial light I allude to that which is required to enable a congregation to see clearly. The questions concerning ceremonial lights do not call for any detailed reference in connection with the decoration of a church. But where it is the practice to use such lights it is certainly necessary to treat them as permanent elements with which any other illumination should not interfere. In dealing with artificial light several important things must be considered. The positions in which it shall be placed, the nature of the light available, its power, its colour, its height above the heads of the assembled people—these are the principal matters with which we should have to deal. And let us be careful to remember that artificial light may make or mar any decoration that is to be seen by its aid. If the fittings are bad you present a permanent defect to the building seen by daylight So it is well that they should be carefully designed. There is a little room for improvement upon the vulgar commonplace stock patterns always available But the truth is that all these fittings, as well as other furniture, should be expressly designed and made for the building in which they are to serve. They may be simply wrought and coloured, or if the general architectural accompaniment demands it, they should be more rich in both respects.

Now the position for several points of light is not always easily decided upon. There is, however, one thing upon which no doubt all of us have a very positive feeling And that is that the lights should never be hung in a string down the centre of the nave. It ruins the architectural effect, it entirely destroys the dignity of the sanctuary, it blots out the altar and reredos, and it is not, practically, the most desirable position. For further than those objections already stated, this method is not the most satisfactory way of equally distributing the rays If there is an arcade the happiest position for brackets is on the east side of each pier. This, to a certain extent, will light the building without our being compelled to see where the light comes from, especially if some form of reflector is used to throw the rays forward towards the centre. But if there are brackets on piers or on side walls it is necessary to keep the width of the nave, that is the distance across from point to point, within certain limits. Standards are sometimes adopted as a method of securing an equal distribution, but they are objectionable for reasons that will follow in considering the height at which the lights are best fixed. There is another course that may well be followed, and that is to use pendants. These, whether hung out from the walls or directly from the roof, seem the least objectionable idea. For with them we can distribute the candle-power as we will, and they may be regulated in height from the floor. A useful practical position for pendants is about in a line centreing over the seating space on either side of the middle aisle. Any decoration on the walls or roof is little obscured by the glare from them in such a situation.

Of the various kinds of artificial light now available two are most commonly used—these are electric light and gas. Of acetylene gas I cannot say anything, as it is only a new product comparatively. Candles and oil lamps, as general illuminators, do not now command very much respect for several reasons, so it will be sufficient to confine any further remarks to the two kinds at first mentioned.

Electric light appeals to us all because of the many chances it gives of lighting a place beautifully as well as effectually. Its colour, though rather white and cold as a light, interferes but little with the colours in any decorative work—unlike the strong yellow of oil lamps, which combines with and quite alters the hues in painted work. But I find from experience that the chilling feeling of electric light, always exaggerated by the use of white shades and reflectors, can be toned down so as to be quite like a lovely mellow ray of sunshine by using polished copper reflectors. One objection to the use of electric light is its piercing glare. And you can dispose of this trouble by breaking up the rays and by carefully selecting the situation and height of the lamps. One way to combine the use of copper reflectors with an effort to multiply the rays in a pendant is to put an inverted saucer-shaped reflector over the lamp, and from this to hang by slender chains a cut-glass bowl, close up under the lamp, with the whole surface facetted so that it looks like a transparent cup of diamonds.

In speaking of gas for the purpose in view my reference is to incandescent burners. And if these are used there is little to choose between it and electric light, so far as their relation to decoration is concerned. Gas is a slightly warmer toned light than the other. But in candle-power they are nearly equal.

There is another idea that we need to consider before quitting this immediate subject. It is, too, one which affects the whole character of a decorative scheme and of an architectural composition as much as the comfort or pleasure of a person who looks at these by artificial light. And it also helps to give dignity or suggest depression to everything that takes place in the building. And this is the level above the floor at which the lights are placed Keep them too low and they will blind your eyes to all things else, and make the interior seem mean, small and circumscribed. Lift them well up at least 8 feet above the average level of your eyes and the building is transformed at once. It becomes open, capacious, free. It has an air of easy repose. And its size you apprehend because that which kept you in oblivion now teaches your open eyes to see

In a church there are several objects necessary for its complete equipment. These we as a rule think of as the furniture. And if the person who has designed a building is not privileged also to design or select all the furniture that is required, he may at least hope that his opinion will be sought regarding it.

He conceives the church as one whole, complete with its decoration and furnishing. And if he is not permitted to have a voice in the scheme of colour and type of design to be adopted in everything down to the carpets on the sanctuary floor, it is impossible that the building can be made a complete work of art architecturally. To deny him this satisfaction would be the same as to ask a painter to make a picture and say that he is not to do more than group the several skeletons happily; and that any untrained ignoramus is quite able to put all the life and soul into the features of the bony faces, and clothe the bare limbs with decent, if not suitable, garments.

Yet silly as it may seem, this is frequently done by very well-meaning but ill-advised people whose ardour so much outruns their discretion and their capacity. Now what is there that we may speak of as the flesh, the mind and the soul of architecture? Surely these are to be found in the mouldings, the carving, the colouring and the furnishing. Is not decoration then in nature always the finish to perfect structure? It is almost an offence to suggest such an idea, for the notion is apparent to the veriest child that will use its mind with its eyes. Therefore let us first have sound and well-studied building. And let us design it, always bearing in mind that the bones are to be in time clothed with a covering beauty; a beauty which shall never hinder nor interfere with, but rather express and more fully interpret all that other beauty of which it is the completion But what are some of these things grouped by us all under the term "furniture?" We know them well enough. Let me, for the sake of clearness, name at least some of the more important among them. Somewhere at the west there is the font, and then in the body of the building the seating. The pendants and brackets for lighting the place have already been mentioned. Then, in connection with the chancel, there are the stalls in the choir, the lectern, the pulpit, a litany desk, perhaps some screens, and the organ. These have to do with that part of the chancel commonly referred to as the choir. The altar rails separate it from the sanctuary, in which is the altar itself. And within the same division are the sedilia, credence table and piscina. Most of these particular things are considered essentials, ecclesiastically and architecturally. However, as I have said, in neither sense can the building be considered complete unless colour has been introduced, and that not only upon such furniture as these represent. Mouldings and carving we can omit entirely, but not colour. It is of course inevitable that it should be there in a modified way, because all materials possess it naturally. But it should be there by design as well as by occurrence.

Now, frankly, I do not quite know how to say anything helpful about the design and decoration of furniture. It is a simple matter to string together the customary phrases which are the stock-in-trade to be doled out as things at which we should aim. The best thing to say seems to be—go and look at work that has been done both in the past and the present.

The use of woven stuffs of all sorts in the decoration of churches is much in need of revival I do not mean at all to say that this revival has not been tried. Far from it. For it has; and in the still too few cases where the art of the weaver has again been introduced to serve the needs of the Church much interesting and beautiful work has been done. I would make the suggestion that you should think about the Tabernacle as a typical instance of the unity of order and arrangement pointing to a unity of worship, and also to the unity of all labour. For see how the crafts joined hands under the direction of the appointed skilled artificers, and made a whole that was related in all its parts both as to idea in ritual, ceremonial, structure and decoration. It is the example the Church should follow in each respect It points to the need of every man and each man's special capacity, but each acting in order, according to his faculty and the place he fills. It shows the mutual dependence of the arts And it is upon the satisfactory application of this principle to the ethics of labour that the solution of many of our present difficulties depends.

There are many instances where tapestry has been used with excellent results as a means of decoration in churches In the cathedral at Ferrara some remain suspended between the pillars of the nave beneath the arches of the arcade At Beauvais in the cathedral, too, the same means has been adopted as a hanging wall decoration Though beautiful as most of these pieces are, we may wish that they had been hung with more thought and some intention of arrangement. In the chapel of Exeter College, Oxford, the same material is used as a kind of decorative panel placed against the wall close to the chancel floor level Now why may not this method of decorating churches be more used? It is a means by which permanent coloured work may be introduced, though it may, with some force perhaps, be urged that equally good results can be obtained by methods which do not involve the exercise of so much highly skilled capacity. It need not be always so costly as it is now if its use became more general, and we are not obliged to use figure work in all tapestries. But I am inclined to think that such a material should be used rather sparingly, as a hanging, say, behind the font, as a panel in a reredos or as a frontal for an altar. It would look very fine, too, as a curtaining round the walls of a sanctuary. By tapestry we should mean real tapestry, not the sham material of the wholesale furniture mart. And, above all, in using it we must insist on having good colour, real colour, not dark, morbid, heavy shades, not feeble tints, but bright, cheerful tones taken from the tints of flowers or jewels or sunlit clouds. Of course, the introduction of woven stuffs as a means of decoration should not be used so that the building shall appear to be a mere exhibition of millinery. There may be uses too for other woven stuffs. Those large curtains hung in big folds with fine simple lines of curve which are to be seen as a feature of many a western entrance in Italy are suggestions of what might be done even in England. They look delightful on a hot day in the South, and merely to see the slightest breeze move them, as the hot air struggles into the cool church, is very comforting. There was one in particular hung in the large west doorway of Sta Anastasia at Verona which always gave me intense pleasure. Its great sun-stained orange folds swaying under the tympanum of the arch, in which there was a delightful piece of figured fresco, formed the one decorative attraction in the midst of a great unfinished blank brick wall.

Where we have most adopted a kind of curtain hanging in England is in the dossal and the wings sometimes hung behind an altar to take the place of any more elaborate work, such as a reredos. Many beautiful effects have been obtained by this method. It is a simple one, and need not be at all costly, and the number of materials that can be used for the purpose is almost unlimited. We need not use rich brocades of silk or velvet if we have not the means at our disposal which will procure for us the very best in these stuffs, for it should be always borne in mind that good material of its kind, however quiet, however simple, should always be used in church work. It is an offence, an insult, to offer for use there anything that is a cheap and vulgar makeshift. If the parish whose servant we are for the time being cannot give richly, let them give well, and let us provide plain, unfigured, coloured, or uncoloured hangings which shall be an honest acknowledgment of the condition and capacity to give of those who are to use the building. Curtains, too, may be used with fine effect if well hung and well chosen for colour in place of wood screens.

In much modern work we may find a large and interesting series of cases where various fabrics have been used in different ways. These materials naturally retain their colour and freshness better in places out of London. But they are a convenient means by which bright and cheerful decoration may be obtained. There is one thing further. Be very careful about the altar frontals. They become part of a decorative idea, and should, therefore, be designed in keeping with it. There is much room for improvement in embroidery. And each of us can help in this by watching over its production, from the making of the design and choosing of the grounds down to the selection of the kind and colour of the threads, silk and other, or the texture to be obtained by the character and direction of a stitch.

Again there is the subject, a most important one it is, too, which requires much forethought, What shall be the colour scheme in relation to lightness and darkness by which the impression or impressions at which we aim shall be produced? Shall it evoke a bright, cheery and hearty response of delight in our surroundings? Shall it make us full of joy in the freshness of lovely beauties of colour and form, or must we submit to some sombre gloom full of suggestions of pessimistic distrust? Does the situation, does the climate, the intensity of light, or the soft mistiness of its suppression, permit us to use safely an abundance of bright or deep-toned colours, or of whites or greys? For broad ground-work we may select a large variety of tones of some few colours. A blue or a gold ground in mosaic-work is the traditional course to follow. But in cities of the North we need develop other methods than those proved of so much value by southern experiment. And it seems natural to suggest that a white mosaic ground would be a useful one, especially for buildings in large towns where the light is rather feeble. The necessary warmth and brightness could be introduced in the decoration upon this ground. In any case, whatever may be the ground you select for a particular situation, in order to secure the possession of a certain definite feeling in the whole work, you cannot do better than take all the suggestions you can gather from old and new work. Drawings by other men can tell you but half truths of the effects they see and the impressions they receive. It also is not possible for me to suggest what colours are likely to meet your need No one man can satisfy another's taste in such matters. And only personal experience or experiment can help to decide such questions.

These thoughts seem naturally to lead us forward so that we shall turn our attention to decoration as it may be used when applied as a partial scheme. This would mean that we should use very little figure-work, but mostly conventional patterns, or moulded and carved work coloured. And they also introduce ideas of a comprehensive treatment of the whole building.

Now I will take this part of the subject in a similar order to that observed before. We shall then deal with the glazing of the windows, the treatment of walls and arches with or without moulded forms; and next of roofs, ceilings or vaults It will be quite sufficient to say a word or two about these only, for usually the furnishing of an ordinarily well-appointed church s decorative in some degree.

Windows, and the glass in them, have always been most valuable as a means of decorating or destroying an ecclesiastical building. They can give us the most beautiful colour it is possible to get by any artificial medium, for their brilliance approaches most nearly to that of the loveliest jewels. Perhaps this remark should be qualified. For when the most hideous possible colours that can be discovered by diseased ingenuity are put into windows, and the natural clearness and brightness of even these feeble apologies for beauty is deadened and made semi-opaque by the use of applied paint, then we know to what a degradation the sense for colour has fallen among us. The pure translucent colours of stained-glass have qualities which send a thrill of delightful sensations all through you. To see things beautiful makes us happy with a happiness we cannot explain, but it makes us reverent, and silent, and thoughtful oo.

If stained-glass is to be put into the windows we should fight hard against the prevailing custom of introducing into one building a mixed collection of samples, good and bad, by a variety of designers. Let there be a unity of idea throughout he whole series connecting them together as subjects, as colour schemes, and in the general principle of their treatment as several related designs. It is quite possible to accomplish this, even though the first window may be inserted years before he series can be completed. But whatever is done, let the work be stained not painted glass, and let the design be strictly decorative, strictly conventional, strong in line, flat, having no pictorial shading and never a shadow. Works of decorative design should never be realistic. Pictorial representations may so far approach realism as the limit of their necessarily conventional processes will allow. But decorative and pictorial work are distinct in their aims, their uses and their methods, and let this ever, persistently, be recognised. It is not for me in a paper of this kind to attempt to discuss details of composition even if it were within my province or capacity. Such a course as this would be natural in a paper on stained-glass. But my purpose is to endeavour to show that the mportance of all particular ideas, all special media, in one decorated building, is relative, and that the attempt of a general supervision should be to keep each designer in any craft in proper subjection to the one object of the whole scheme. It is a pardonable failing in us that we all are liable to think that our own pet and especial gift is the one redeeming glint of real brightness in a clouded sky. But what would be the value of any lighting rift if it were alone without the companion colours of all the earth and sky that you might see? Such an idea is untenable. Let each brother craft or sister art take its place, for each has a place that cannot otherwise be filled, so that the union of all may give us again the one art which is called architecture.

If we are allowed to add applied decoration to the walls and arches let us keep the same principle of unity always still in view. And this unity is possibly best when we do not, as it were, riddle and worry all surfaces with something which calls for notice. To keep a common groundwork and to show plenty of it will help to give a continuity to the prevailing idea of your scheme Or else subdue the ground and connect the related parts with a covering pattern or diaper. The two methods combined aid each other. The restfulness of a plain field, either of white or in colour, with but little applied decoration, helps to counteract the restless activity of thought apparent in the intricacies of meandering scrolls, or the repetition of one idea in spotted diapers. This is but another way of saying, Take care of the value of your contrasts as well as of the arrangement of lines, the contours of form and the quality of colour. It is a pity we do not more realise to what extent we may well omit all moulding and carving if colour on the flat is taught to take the place of these But it should take their place, not as a hypocritical mimic that would savour of theatricalism, but rather as a substitute frankly acknowledged in the methods by which it is introduced.

However we may decide to act in detail, let us follow the principle already suggested, and observe the uses of subjection and accentuation both in detail and in the general treatment. Above all keep the unity of the two architectural and the three ecclesiastical parts of the building a patent fact. And at the same time let the beauty and value of the work in the chancel exceed that in the nave, and in the chancel concentrate your best efforts upon the treatment of the sanctuary as distinct from, though contiguous with, the choir. With regard to the roofs, ceilings, domes or vaults, much that I have said concerning the walls applies to them. But as they are more removed from the ordinary eye-level they call for a large vigour and breadth of handling Notice how clear, how definite and firm are the lines of design in the pattern work from Sta Anastasia in Verona, St. Albans Abbey and Chichester Cathedral. In painted figure subjects the same simplicity and readable clearness, lucidity if you will, prevails. The theme may call for the representation of few or many figures, but never in good work is there a single unnecessary one introduced. The endeavour is rather to compress the thought by elimination than to expand it by overgrown profusion. In the mosaic schools of the East and of Italy it was the same. Consider the self-repression for the sake of clearness that is evident in the decoration of Sta Sophia and St. Mark's. Frequently there are simple figures set alone upon the groundwork having little or no connection with each other in design They depend for their relation upon the idea which their attitude, position and grouping suggests. Be epigrammatic, speak a volume in a sentence, give a life's history in a sonnet—that is the aim and the attitude that literature suggests to design And design requires before all things an exercise of repression, restraint, selection And if it has not passed through the crush-mill of your own merciless criticism it will not stand the test of exposure to the views and tastes of other minds.

Some of the drawings here this evening will show you that I have been uttering only the commonplaces about what has been observed by others in the past. For the work of the present you know well how it attempts, or does not attempt, to follow the same principles. Among the studies hung round the room you will find these ideas largely supported by the conclusions arrived at by our predecessors after much experiment No good work was ever the act of one effort alone. It took years of the thought and work of many men to make it possible that the monuments of Byzantine and Mediæval skill should be executed. And so will things continue.

I now invite your criticism of my suggestions In fact, I ask for it because it will I know be useful If you do not agree with them, please say so, for it will help me to think them over again. If you leave me to hold some of these opinions alone it will be a satisfaction, for it is pleasanter to me to struggle with a minority than move on the flood of an agreeable crowd streaming on another course.

The President said the subject had been treated in a rather more universal way than he had expected, and an exacter descriptive view might have been taken. It was easy to agree with the author of the paper that practical experience was the only way to deal with actual work. The theoretical side would not in itself help them to produce the greatest work It could elevate them. They must as architects feel that their greatest principle in decoration was to keep within the architectural lines, not to distort in any way the details.

Mr. J. D. Crace, who proposed a vote of thanks, said one of the most essential conditions of decoration was that it should, whatever else it did, help to explain and illustrate the architecture The subject was of the greatest importance to architects, but the use of colour should never be undertaken without the person who had the management of it having in his mind the design of the original structure If a building had any architectural merit it was the decorator's business not to mar it.

Mr. Cole A. Adams seconded the vote, which was carried unanimously.

SUSSEX ARCHÆOLOGICAL SOCIETY.

THE annual meeting of this Society was held at the Town Hall, Lewes, on the 21st inst., Mr. Percy Godman, J.P., presiding The annual report and balance-sheet were read by Mr. H. Michell Whitley, hon. secretary.

In moving the adoption of the report, the Chairman said a sub-committee was appointed last year to carry on excavations at Pevensey Castle, but a difficulty had arisen as to the turning up of the ground. They had obtained the permission of the landlord and one tenant, but there was another tenant from whom they had not been able to get permission. It was, therefore, proposed that the money allocated for this purpose should be used for excavations at Lewes, where, he thought, a great deal could be done very profitably. Another very interesting matter to follow up was the Dyke which runs from Houghton on the Arun through Goodwood and Lavant to Hampshire. He did not think it had been very well explored, and a great deal to interest might be found by further excavations there. He was sorry there had not been so many evening meetings last year as in the preceding year, and he would very much like to see more held in the various towns during the ensuing year. He thought the war had interfered somewhat with their meetings, but he hoped when the war was over, which he trusted would not be very long, they would begin again with renewed vigour. Those meetings were exceedingly interesting to all connected with archæology, and generally a number of new members joined at the close. They had a clear gain of ten new members last year, and he hoped to see twenty next year. A very full paper was being prepared on the mural paintings in Sussex churches, and would be printed in the new number of the Society's Journal. He looked forward to reading it with considerable interest. The visitors to the castle were something like 100 more than last year. Mrs. Morgan, the curator, was celebrating her twenty-fifth year as custodian, and it was thought advisable that a small sum should be set apart from the funds to provide a small acknowledgment of her services.

Mr. R. Garraway Rice, F.S.A, seconded, and the motion was carried unanimously.

The President and Vice-President were unanimously re-elected, on the proposition of the Chairman, seconded by the Rev. Canon Cooper, after which the following gentlemen were elected on the committee :—The Revs. Chancellor Parrish, Canon Cooper, Canon Goodwyn and W Hudson, F.S.A., Major F W. Attree, Major H. P. Molineux and Captain W. Noble, F.R A S., and Messrs. J. L. Andre, F.S A., W. Powell Breach, P. S Godman, E. Henty, Aubrey Hillman, W. Hamilton Hall, F.S.A, P. M. Johnston, Latter Parsons, W. A Raper and R Garraway Rice, F.S A. The local secretaries were next appointed as follows :—The Revs Canon Cooper (Cuckfield) and F. H. Arnold, LL.D, F.S.A. (Chichester), Captain Noble, F.R.A S. (Uckfield), and Messrs. A P. Boyson (Lewes), J. Ellman Brown (Shoreham), R Payne Crawfurd (East Grinstead), W. V. Crake (St. Leonards), W. Dawes (Rye), H. M Emary (Eastbourne), A F Griffiths (Brighton), P. S. Godman (Horsham), E. C. Holmes (Arundel), C. W. Powell (Tunbridge Wells), R. Garraway Rice, F S.A. (Pulborough), and H. S. Snewin (Worthing). Interesting papers were then read by Mr. P. M. Johnston on "Ford and its Church," illustrated by reproductions of sundry mural paintings therein ; Mr Boyson on "The black marble columns at Lewes Priory," and the Rev. W Hudson on "A tax or rate book, 1515 to 1548, formerly belonging to the Corporation of Pevensey". At the close of each paper the authors were thanked by the chairman on behalf of those present

In reading his paper, Mr. Boyson remarked that at the annual meeting last year he was enabled, by the kindness of Mr. F. G. Courthope to exhibit, amongst other objects, one of the dark shafts, of which many have from time to time been found at Lewes Priory. Their member (Mr. Johnston) then expressed a very confident opinion that those shafts were of the same stone and from the same source as the well-known font in Winchester Cathedral, and in order to confirm his opinion from a geological authority (he would not have sought any confirmation archæologically), he submitted a piece of one of the shafts to the secretary at the Museum of Practical Geology in Jermyn Street He (the secretary) pronounced it to be "a compact black limestone slightly laminated, from the carboniferous limestone series," and one of his colleagues, who knew the Winchester font, said he had no doubt it was practically the same stone. There were six other fonts of the same kind as that at Winchester, in England, *i.e.* East Meon ; St. Michael's, Southampton ; St. Mary, Bourne, Hampshire ; Lincoln Cathedral ; Thornton Curtis, Lincolnshire ; St. Peter's, Ipswich, Suffolk ; and four well-known examples on the Continent, *i e.* Zidelghem, near Bruges ; Termonde, near Ghent, Belgium ; Noiron le Vineaux, near Laon ; St. Just, between Amiens and Paris, Northern France. The Dean of Winchester, in a very interesting article in the Journal of the British Archæological Association (vol. i page 6) seemed to prove as conclusively as possible under the conditions that those fonts were carved at Tournay, in Hainault, where a school of art for stonework existed as early as the eleventh century ("Tournai et les Tournaisis," M. L. Cloquet, page 37), and near to which town quarries of that stone still existed, and that they were made some time in the latter half of the twelfth century. The tomb slab of Gundrada in Southover Church consisted of black limestone of the same character, and there was a dwarf column of like pattern and material to the priory shafts dividing the late Norman squinch in Rodmell Church. It thus seemed that there was a considerable export of those works of art from Belgium to England in Norman times, and that Belgian workmen were competitors of the English in stone-work in those days, although, perhaps, the competition was not so keen between them as was the case with iron-work at the present time. It would be interesting if any of their members could furnish instances of similar stone-work in other parts of the country. Alluding to Mr. Johnston's paper, the Chairman said Ford was a very interesting place, and would amply repay anyone going there. He would advise them to see Ford Church, also Clymping Church, which is closer to the sea. They had lost one of their fine old churches, Middleton Church, which had been washed away by the sea ; and it behoved them to visit the churches by the seashore and perpetuate the mural ornaments to be found in them.

Mr Boyson, at the conclusion of his paper, said that permission had been obtained to excavate in Lewes Priory, which would, he thought, be found very rich in objects of archæological interest.

The Chairman said these excavations would be conducted under the eye of Mr. Boyson, who lived at Lewes, and took great interest in the work. Everything he took up he did thoroughly well, so he was sure these operations would be well looked after. Alluding next to the annual outing, the Chairman said the committee favoured a visit to East Sussex in the direction of Tunbridge Wells this year. There were several places of interest thereabouts. They would probably meet at Groombridge Place, and from thence would trespass into the county of Kent—to Penshurst, a very interesting place. At the next meeting the committee would make further arrangements.

The Rev. W. Hudson produced the original volume of tax records on parchment, which he handed over to the Chairman for safe custody.

The Chairman, after thanking Mr. Hudson, said it was proposed to issue a circular suggesting the formation of a society for investigating the many very interesting old records to be found in the county. Mr. Merrifield had told him there was a whole room full of such records in the Town Hall, which were practically worthless, but would be very interesting to archæologists. The subscription to the society would probably be half a guinea, and the membership would not be confined to archæologists.

A vote of thanks to the Chairman concluded the meeting.

SURREY ARCHÆOLOGICAL SOCIETY.

THE annual meeting of the members of the Surrey Archæological Society was held at the Castle Arch, Guildford, on the 24th inst. Viscount Midleton (president of the Society) occupied the chair, and those present included Sir Cuthbert Peek, Bart., Colonel Davis, A.D.C., Colonel Godwin-Austen, J.P., Colonel Tredcroft, J.P., C.A, Colonel Sykes, the Rev. T. S. Cooper, Dr. W. E St. Lawrence Finny, Messrs. Ralph Nevill, H. E. Malden, Mill Stephenson, A. R. Bax, R. Hovenden, F. B. Eastwood, H. Mott, D. Williamson, J.P., G. C Williamson, Wallace G. Crothers, H. St. John Bashall, W. H. Burbidge, W. B. Bannerman, Edmond Foster and M. S. Giuseppi (hon secretary).

The Hon. Secretary having duly read the report and balance sheet,

The Chairman, in moving the adoption of the report, said he thought the Society might congratulate itself upon the position in which it found itself. There had been a net gain of forty-five members during the past year, and, curiously enough, that corresponded very closely indeed with the net increase in their balance sheet, because they ended the year 1899 with a balance of upwards of 40*l* in favour of the Society. The subscription for members was only 10*s* a year, but every fresh member was a source of profit to the Society, and if those who were already members could only each of them enlist the interest of two or three others in the Society they would not only be in a sound but in a flourishing financial condition. The principal work of the Society during the year, beside its publication, had been in carrying out the excavations at Waverley, to which the Rev. T. S Cooper had devoted such valuable attention, and, although Mr. Cooper was retiring from the joint hon. secretaryship, through absence from the county, they hoped to see him a member of the Council, and he was prepared to continue the supervision of the good work he had been doing at Waverley. There was a plan there that day which showed exactly what had been done and what was proposed to be done. The balance in hand for this work at present was small, between 8*l*. and 9*l*., and he need not say that any contributions to the special fund would be very thankfully accepted and acknowledged. He thought they ought to be able to expend a sum of 50*l* or 60*l*, if they had it, during the ensuing year, and probably one year beyond that—that was 1901—would complete all that it was likely they would be able to accomplish. When they had done that they would have brought to light some of the most interesting features of one of the most interesting old abbeys in the country, and several points would have been set at rest which previously remained in doubt. It was always supposed that Cistercian abbeys were built precisely on the same plan, but the excavations which had taken place had shown that, although the general plan might be the same, yet in the case of Waverley, at all events, there were very considerable variations upon it, several of which were of great archæological interest. It seemed almost extraordinary that in a county which was not very redundant in ancient monuments the site of Waverley should have been so long left unexplored. But that reproach would no longer rest upon the county, and, thanks to the energy which Mr. Cooper had thrown into the work and to the care with which he had superintended the researches which had been made, he thought they would be able, at all events in the course of two years, to place before the county, and he might say before the country, a thorough ground plan of one of the most interesting monuments of the past. The work could only be carried on during the summer, because the spot was a very damp one, and was easily flooded by the river Wey ; but if sufficient funds were forthcoming, it would be prosecuted throughout the next summer. They had to thank Mr. Anderson, the owner of Waverley, very much for the facilities he had placed at their disposal for prosecuting the work, and without which they could not possibly have carried it as far as had been done. The Society, therefore, was doing a good work, and was in a flourishing condition, but there were other publications undoubtedly which they should be able to place in the hands of members if they could receive sufficient support from the county to warrant it. They had between 350 and 400 members, but he need not tell them that in so populous and wealthy a county as Surrey that number might be increased almost indefinitely. He thought the report reflected great credit upon those who had had the management and carrying forward of the work of the Society. He did not think it had ever before been on a sounder financial basis, and very little further effort was required to make it a complete success. He had so often before dwelt upon the importance of prosecuting what researches they could in the county that he need scarcely trouble them with his views on that subject again. What was quite certain was that they were gradually developing a great deal more of archæological interest than was supposed to exist within the bounds of a county where, the land being mostly poor, there were, comparatively speaking, fewer buildings of any large class such as they found in some of those counties where the soil was wealthier, and where it had therefore attracted more interest and more population than was the case formerly in Surrey. Of course, these conditions had now been reversed, but they had not been reversed in time to make them a county specially rich in archæological remains. Still, there was a great deal to be developed; and he mentioned, as one case which he happened to know something about, that of East Clandon Church. That church, which had been entirely neglected until lately, was now in process of restoration, thanks very much to the interest that had been taken in it by one whom they had recently elected a member of their council, Mr. Frank Eastwood. It had been placed in the hands of Mr. Jackson, who himself resided in the county, and who had lately been appointed, on Sir Arthur Blomfield's death, the diocesan architect. Various very interesting features had been discovered within a comparatively limited space. Among other things he might mention that the excrescence—for it was nothing more—which was formerly used as a family pew by the Sumner family, and which subsequently was converted into a vestry, turned out to have had its roof lowered by nearly one-half in order to make it more cosy and comfortable, and to have been really an old transept of the church. He did not think they must look forward to many other successes of the kind, because as a matter of fact there were very few churches in the county which were capable of restoration at all which had not been restored. What he thought was far more important than what might actually be accomplished by the Society was the general interest which its existence evoked in the past among those who were the inhabitants of the county or who became visitors to it. It led them to think a little more of what their ancestors did and what were the reasons why they did it. In nine cases out of ten their ancestors had very excellent reasons, either for promoting beauty of form or utility in shape, and it was the special duty and object of the Society to prevent these facts being overlooked when any structural changes were being made in edifices in which it was possible, with a little reference to the past, to preserve their original features, and in that way to continue what he might call the county history down to the present time.

Sir Cuthbert Peek seconded, and the report was adopted.

The election of officers was then proceeded with, and many of the members remained to inspect the plans of the further excavations proposed to be carried out at Waverley. A map of Kingston in 1813, reproduced by Mr. Spratt, was received as a gift from Dr. Finny.

ABERDEEN SOCIETY OF ARCHITECTS.

THE annual dinner of the Aberdeen Society of Architects was held on the 23rd inst. in the Grand Hotel, Aberdeen. Mr. Arthur Clyne, president of the Society, occupied the chair. At the conclusion of the repast the Chairman gave a cordial welcome to the guests, and proposed, in graceful terms, "The Health of the Queen and Royal Family," which was very oyally pledged

Mr R G Wilson, in proposing "The Town Council," referred to the arduous duties of those who undertook the work, nd said that while perhaps they were not always satisfied with hat work, they were at least satisfied that the members were ying to do their best He was very glad to see present the ead of the community, Lord Provost Fleming, and the senior ailie. They all esteemed the head of the city for his generous ospitality, and for his ardent desire to favour any good cause for the benefit of the city, and he was sure they would all regret when his time of office expired. However, there was no fear for his successors. He had opposite him one who was able to fill the position (Bailie Lyon), and his good friend on the left (Mr. Fyfe) might also look forward to his time coming He coupled the toast with the name of the Lord Provost.

Lord Provost Fleming, in returning thanks, jocularly alluded to the fact that opposition was to be given to the Corporation Bill, and said he supposed the invitation to that social function was something like what they had in Ladysmith when they were firing Christmas puddings into each other's camps. That invitation he took to mean that the architects, though they were going up to London, did not mean to be hard on the Town Council. Whatever happened to the Bill, he was sure they would be good fellows afterwards. After describing the different classes of men who entered the Town Council, he remarked that whatever motives actuated them, they had this in common, that they were all very anxious to do something to help the prosperity of the town. And he was sure they would admit that in the Town Council of Aberdeen there was every intention of promoting what were really the best interests of the city, in keeping it clean and sanitarily pure. They might brush an old coat, but unless it were correctly made it would never be a beautiful garment. The architects had the designing of the outer garment of the city of Aberdeen, and when a visitor came and saw bald and cold architecture, he did not go away with a feeling of admiration. Architects now, however, he pointed out, had come to see the possibilities of granite, and had given them a number of examples that were pleasing to the eye, and he hoped the architects would persevere more and more in removing the plain building with a door in the centre and window on each side, and give them more of the projecting windows, fancy gables, and so on, which would tend to make the city of Bon-Accord more beautiful still.

Mr. James Souttar, in proposing "The Federated Building Trades," said it was a good step that the trades had taken in federating, and a wise thing in the architects in starting their Society. It was quite a bold and right thing of the federated trades the other day to say they would stand together against the strike. He did not know if there would be such unity amongst them to enable them to carry it out. He would like if they could, because union of that kind was a decided strength. The joiners had boasted very much about their enormous strength, their great power and their thorough independence of everybody. He would not go into the question of the strike, but he judged them by one single thing, and that was that they never hit a man until he was down. They never came forward to propose any alteration or make any strike until they knew that their masters' hands were thoroughly tied That, at any rate, was their own judgment. Referring in the course of his further remarks to the Corporation Bill, he said, for the Architects' Society as well as for himself, that they were not opposers of the Bill; that they were very glad indeed, as a Society, that the Town Council had come forward to get the Bill. They had felt, some of them, the need of a Bill for Aberdeen, but while there were among them those who had varied interests, he believed that neither the Federated Builders nor the Society of Architects would like to oppose the Bill for the city. They wanted to improve the city and make it one of the finest cities in the kingdom. He would have liked a larger and stronger Bill, but he thought one thing would have prevented the whole of the opposition, and that was, that if the power of carrying out the Bill had been put into the hands of a Dean of Guild Court instead of being in the hands of one single man. Mr. Souttar then referred to the effects of a recent gale in choking up the sewers and pressing the pestilential vapours from them into the streets and houses, and he would have been glad if the Town Council had made some proposal for ventilating the sewers of the city. He suggested that a good plan would have been to utilise the electric poles for this purpose, as was done in some cities. Even Stonehaven, he said, was far ahead of Aberdeen in that respect. He coupled the toast with the name of Mr. John Morgan.

Mr. Morgan, in briefly responding, said he was glad to hear that the architects were prepared to join the federation, and suggested that others also might join them—Mr. Fyfe representing the quarriers and the Lord Provost the wood merchants, and so on As to the Corporation Bill, he might throw out the hint that it was rather premature. If the Lord Provost would associate himself with the senior bailie and half a dozen other gentlemen, and would withdraw it meantime, it would safeguard the interests that were in jeopardy

Mr. John Fyfe proposed "The Society of Architects." He spoke of the progress that had been made in Aberdeen during the past fifty years in an architectural sense, and expressed the belief that similar progress would mark the next fifty years.

Mr. Clyne, the president, who was coupled with the toast, said that during the past two years the Society of Architects had managed to do a fair amount of useful work. They had their eye on the Corporation Bill in conjunction with the

Master Builders' Federation, and had drawn up a list of little objections to the Bill. By the courtesy of the Town Council they had the opportunity of discussing these very amicably, with the result that in the Bill several of the suggested alterations had been given effect to. While in such a Bill it was impossible to satisfy every individual, he could not help regarding it as a measure eminently conducive to the welfare and improvement of the city. He saw little in the Bill to object to, and much to commend. Mr. Clyne then proceeded to sketch the aims and objects of the Architects' Society, and to set up a high ideal of architecture for the city While in respect to the architecture of its buildings Aberdeen had nothing to fear from comparison with other cities of its own size, he somewhat severely criticised the rows upon rows of mean, uninteresting, characterless cottages and houses, and street after street of tenanted buildings, cheerless and unattractive in their dull uniformity, and strongly urged the necessity and value of a higher standard of architecture.

Mr. D. M'Millan proposed "The City and Commerce of Aberdeen," and spoke of its progress during the last forty years.

Mr. Leslie, who was coupled with the toast, responded.

Bailie Lyon, in a humorous and clever speech, proposed "The Architectural Profession," and enumerated the leading buildings in the city and the architects who had a hand in their erection.

Mr. Kelly, who replied, said that except sculpture no art had developed so much during the last twenty years as that of the architect, and he put in a strong plea for the systematic teaching of architects.

Mr John Rust proposed "Friends and Guests," coupled with Mr. Henry Peterkin, who replied, and Mr Ranald R. Macdonald having proposed the health of "The Chairman," which was cordially pledged, "Bon-Accord" was given from the chair, and the proceedings closed with the singing of "Auld Lang Syne" and "God save the Queen."

Correspondence

Re Jesse Window in St. John's, Leverington, &c.

Sir,—To my annoyance I find that through a lapsus calami the stained-glass window from Leverington Church—now undergoing restoration at Messrs. Ward & Hughes—was described in my letter of last week as belonging to the latter part of the sixteenth century, whereas it should have been fifteenth. It is needless, I think, to remind your readers that folks in Queen Elizabeth's day were much more addicted to breaking than to making Jesse or any other kind of stained windows.

While I have the pen in hand may I be permitted to observe, with reference to the interesting paragraph in your last issue respecting the words "parvis" and "paradise," that in Northern Germany the latter term is frequently applied to the portal ("Vorhalle") reared before the saint-guarded doorways of my old and valued friends the cathedrals of Münster, Paderborn and Lübeck, and the Minster at Herford. Dr. Wilhelm Lübke, in his "Mittelalterliche Kunst in Westfalen" (of which unfortunately there is no translation), thus speaks of the porch attached to the south-western transept of Münster Cathedral :—"An das Portal schliesst sich das sogenannte 'Paradies,' ein niedriger vorhallenartiger Aubau, dessen Kreuzgewölbe auf zwei kräftigen freistehenden Säulen ruhen" ("adjoining the doorway is the so-called 'Paradise,' a low porch-like addition, its vault resting on two sturdy detached pillars"). This "Paradise" at Münster Cathedral, so Erhard in his history of that city ("Geschichte Münsters") tells us, served formerly as a place where the episcopal officials dispensed justice. We read of an instance at the time of the Anabaptist rising, when a tumultuous mob drove the judge from the portal.

Apologising for taking up so much of your valuable space.

Thos. Francis Bumpus.

Glebelands, Stoke Newington :
March 26, 1900.

GENERAL.

The Exhibition of the New English Art Club will be opened in the Egyptian Hall, Piccadilly, on April 9.

Messrs. Simpson & Allen, architects, are to carry out their design for the Cartwright Memorial Hall, Bradford, in its entirety.

The Prize offered to students by Mr. John Holden, architect, Manchester, for the best design for a detached domestic chapel in Classic style has been awarded to Mr. John Swarbrick, who took the same prize in 1899, when offered for the best essay on the Building of the Athenian Acropolis.

The "Sabretache," the French society that organised a museum of military relics in the Invalides, contemplates the erection of a granite pyramid on the field of Waterloo, as a memorial of the French soldiers who fell on June 18, 1815.

Appeals for War Funds have had a disastrous effect upon the influx of subscriptions for the restoration of Peterborough Cathedral. At the last meeting of the restoration committee it was reported that since the last meeting only 135*l.* had been received. When this amount had been expended the work would be brought to a standstill—a step the committee hoped might be prevented by the receipt of further funds.

Mr. E. A. Whipham, architect, of Stockton-on-Tees, lately brought an action to recover 169*l.* 16*s.* for preparing plans and specifications of a house at Saltburn. Although several architects declared that 75*l.* was fair remuneration, Mr. Justice Kennedy awarded plaintiff 125*l.* and costs.

The North Staffordshire Field Club have obtained permission to carry out the reparations required for the preservation of the ruins of Croxden Abbey, near Cheadle.

A Paper will be read at the meeting of the Institution of Junior Engineers on Friday next, entitled "A Comparison of Railway Bridge Structures of Moderate Dimensions and of Methods of Determining their Working Loads," by Mr. Eustace W. Porter.

Mr. T. Drew, R.H.A., has suggested to the Lord Mayor of Dublin that warning should be given to householders either to have old iron balconies propped or take precautions against their being occupied by people who wish to see the Royal procession. Most of the old iron balconies in Dublin are dangerous, and not to be trusted to support a crowd

A Ruskin Society existed for some time in Manchester, but could not be kept up. It is now proposed to revive the Society.

A Deputation of Hull architects, consisting of Mr. F. S. Brodrick, Mr. B. S. Jacobs and Mr. J. Bilson, waited on the Hull Corporation water and gas committee on Monday to submit certain objections to the new city by-laws. They urged that 12 lbs. instead of 15 lbs. per yard should be the required weight of 1-inch water pipes, and that the maximum flush for water-closets be increased from two to three gallons.

The Duke of Connaught, K.G., acting on behalf of the Prince of Wales, Grand Master, has consented to lay the foundation-stone of the new schools of the Royal Masonic Institution for Boys now in course of erection at Bushey, near Watford, on Saturday, May 12 next. The ceremony will be performed with Masonic honours.

The Taylor Art Scholarship of 50*l.* has been awarded in Dublin to Mr. W. Orpen for his painting *A Nude Model.* The following prizes were also awarded :—Mr. H. S. Chancellor, 25*l.*; Miss Elvery, 10*l.*; Mr. A. G. Power, 5*l.*

Christ Church, Quarry Bank, Birmingham, was re-opened by special service on the 26th inst. An addition of about 120 seats has been made to the accommodation. The principal improvement has been the extension of the chancel. It had been hoped that an entirely new chancel might have been constructed, but funds did not suffice. The east end contains a stained-glass window, which has been given by Mr. Jesse Billingham in memory of Mrs. Billingham. There is a new organ chamber; the position the organ has hitherto occupied adds to the space available for seats. The decoration of the church has been effectively carried out, and the work in its entirety has cost about 750*l.*

The sixth ordinary meeting of the Liverpool Architectural Society (fifty-second session) will be held at the Law Library, 41 Castle Street, on Monday next, April 2, at 6 p.m. A paper will be read by Mr. E. P. Hinde, A.R.I.B.A., on "Notes on School Buildings."

The next ordinary meeting of the Society of Engineers will be held on Monday next, April 2, at the Royal United Service Institution, Whitehall, when a paper will be read entitled "Disinfection of the Maidstone Water-service Mains," by Dr. G. Sims Woodhead, M A., and Mr. W. J. Ware, Memb. Brit. Assoc. of Water Engineers.

The first annual meeting of the National Reliance Insurance Company, Limited, was held on the 22nd inst. in Cannon Street Hotel. From the report submitted it appears that the premium income amounts to 15,333*l.* 5*s.* 10*d*, interest on investments and transfer fees to 437*l.* 1*s.* 1*d*, and the total revenue (subject to the deduction of amounts paid for re-insurances and commission) from all sources is 15,770*l.* 6*s* 11*d.* The income could have been largely augmented, but the directors have pursued a policy of caution, and declined the acceptance of all business of a specially hazardous nature. The expenditure amounts to 3,996*l.* 4*s.* 4*d*, and the fire, personal accident and plate glass claims paid and in course of settlement to 5,673*l.* 1*s.* 6*d*

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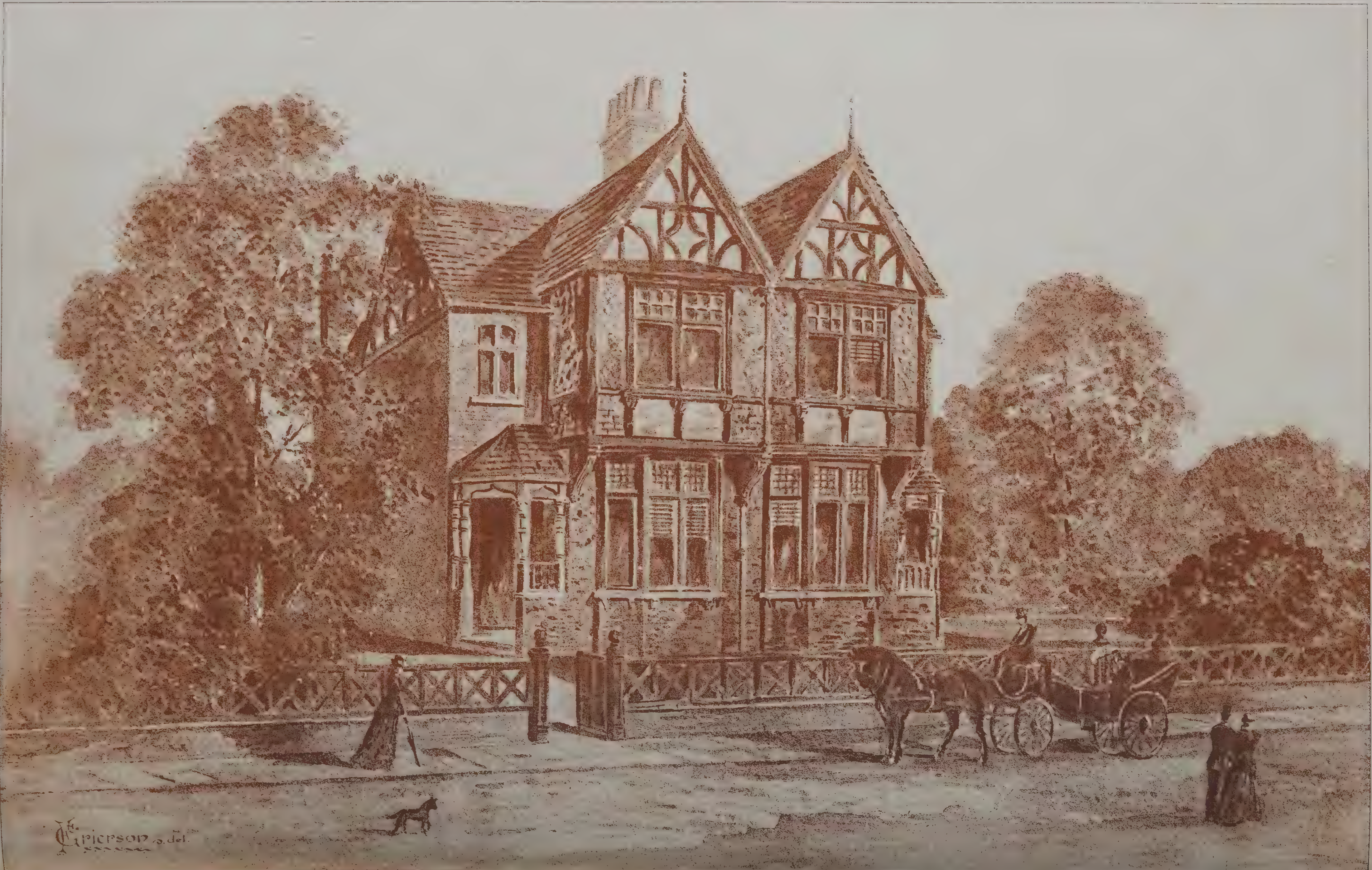
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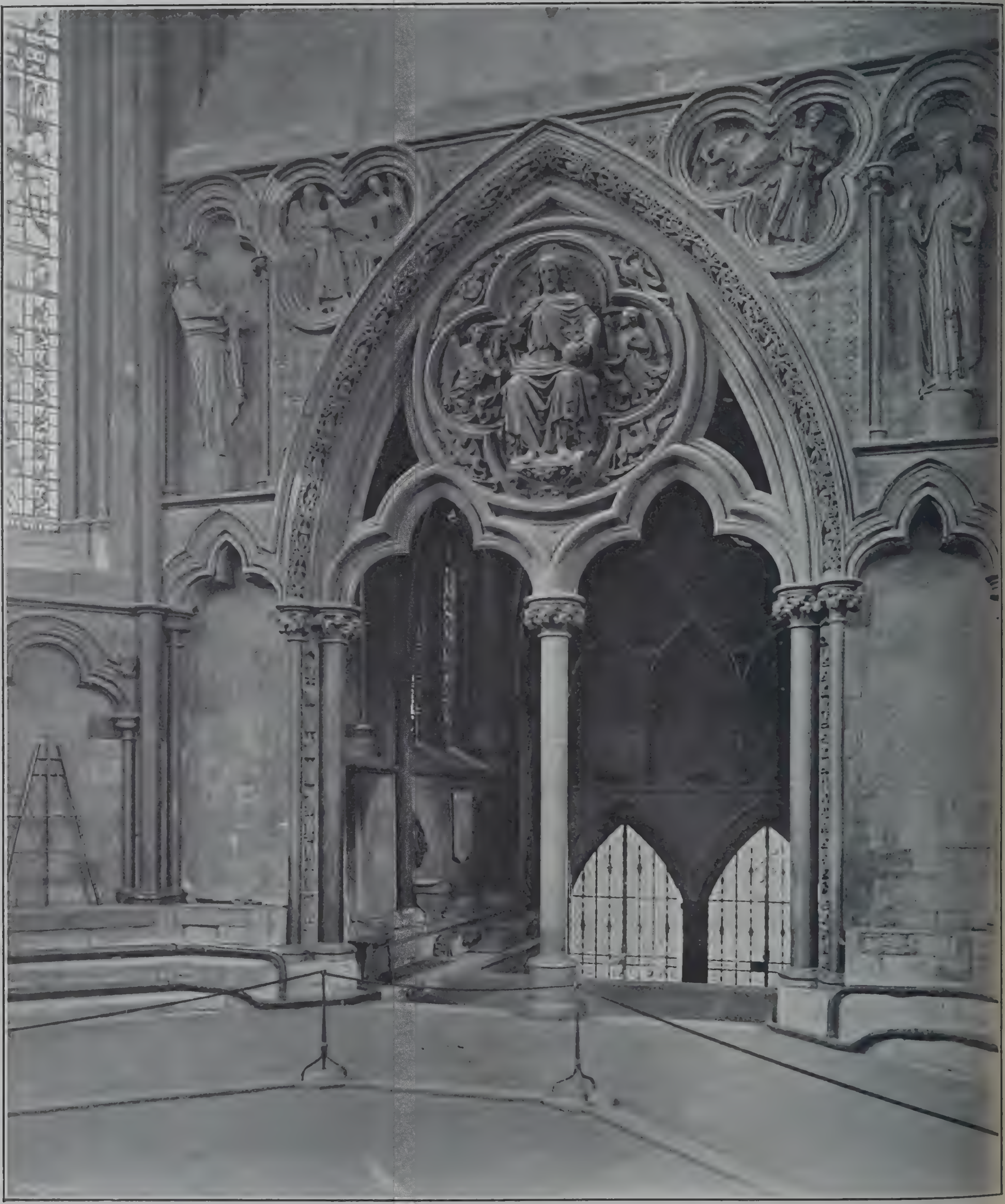

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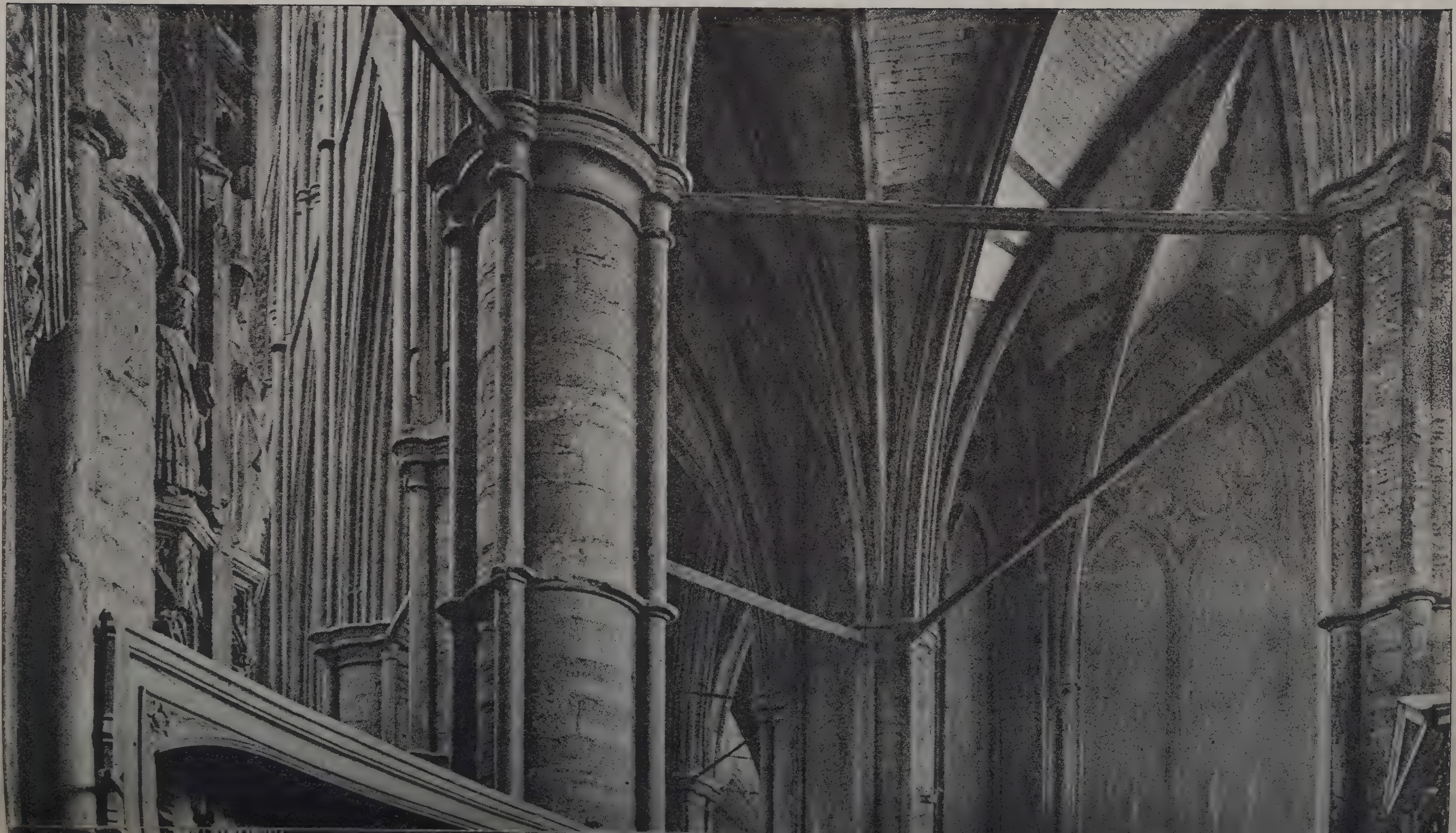

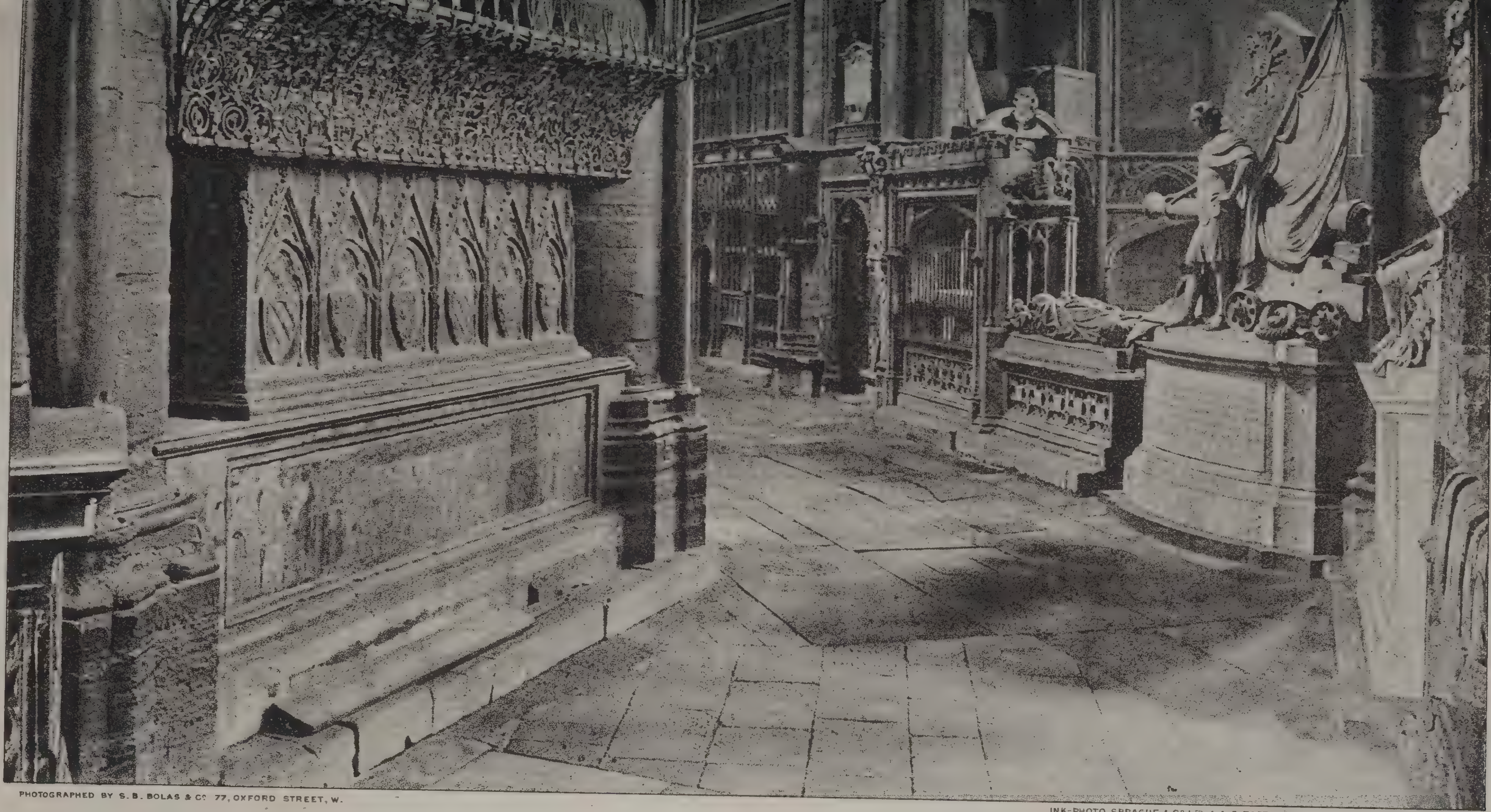

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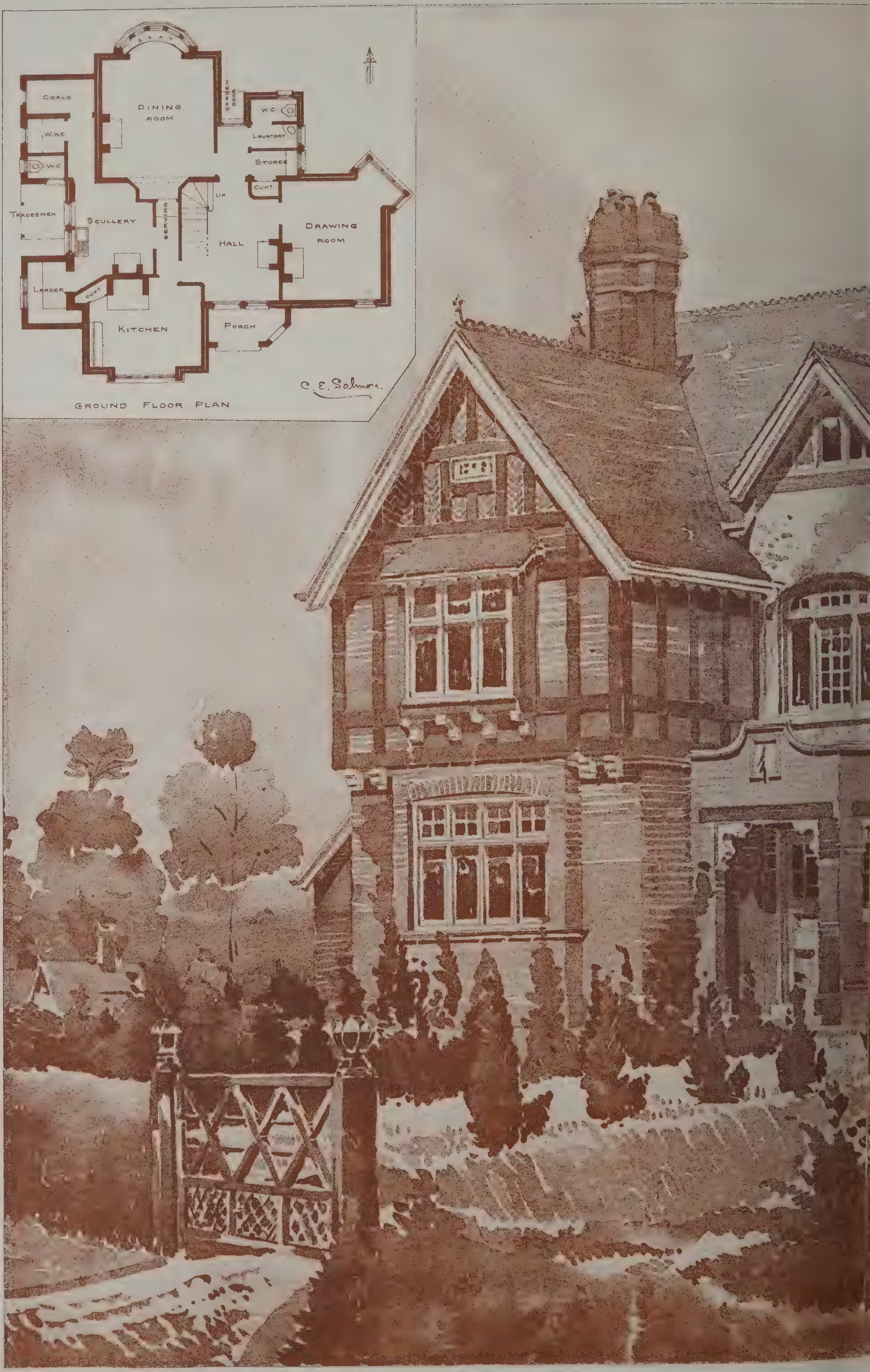

HOUSE AT REIGATE, B

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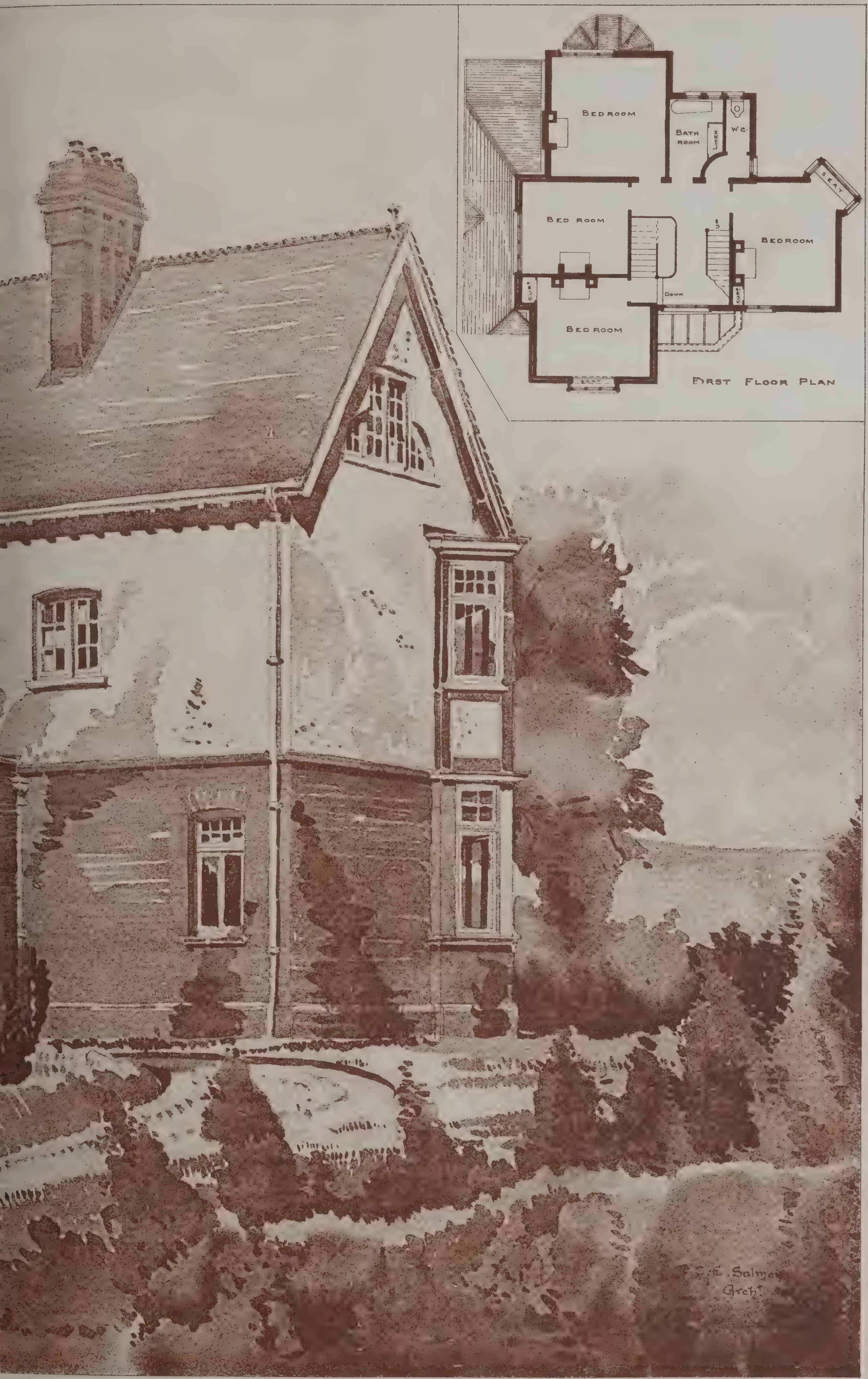

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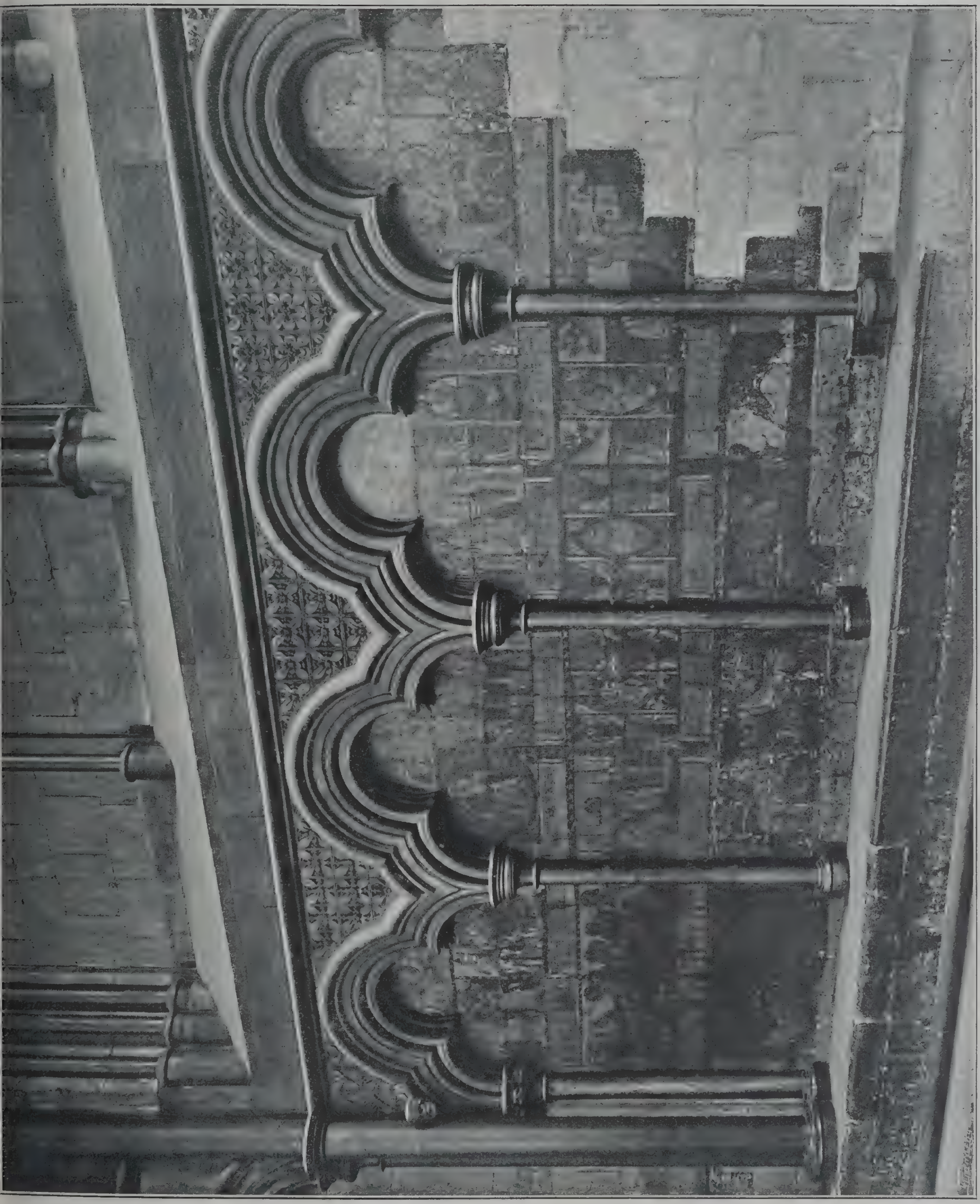

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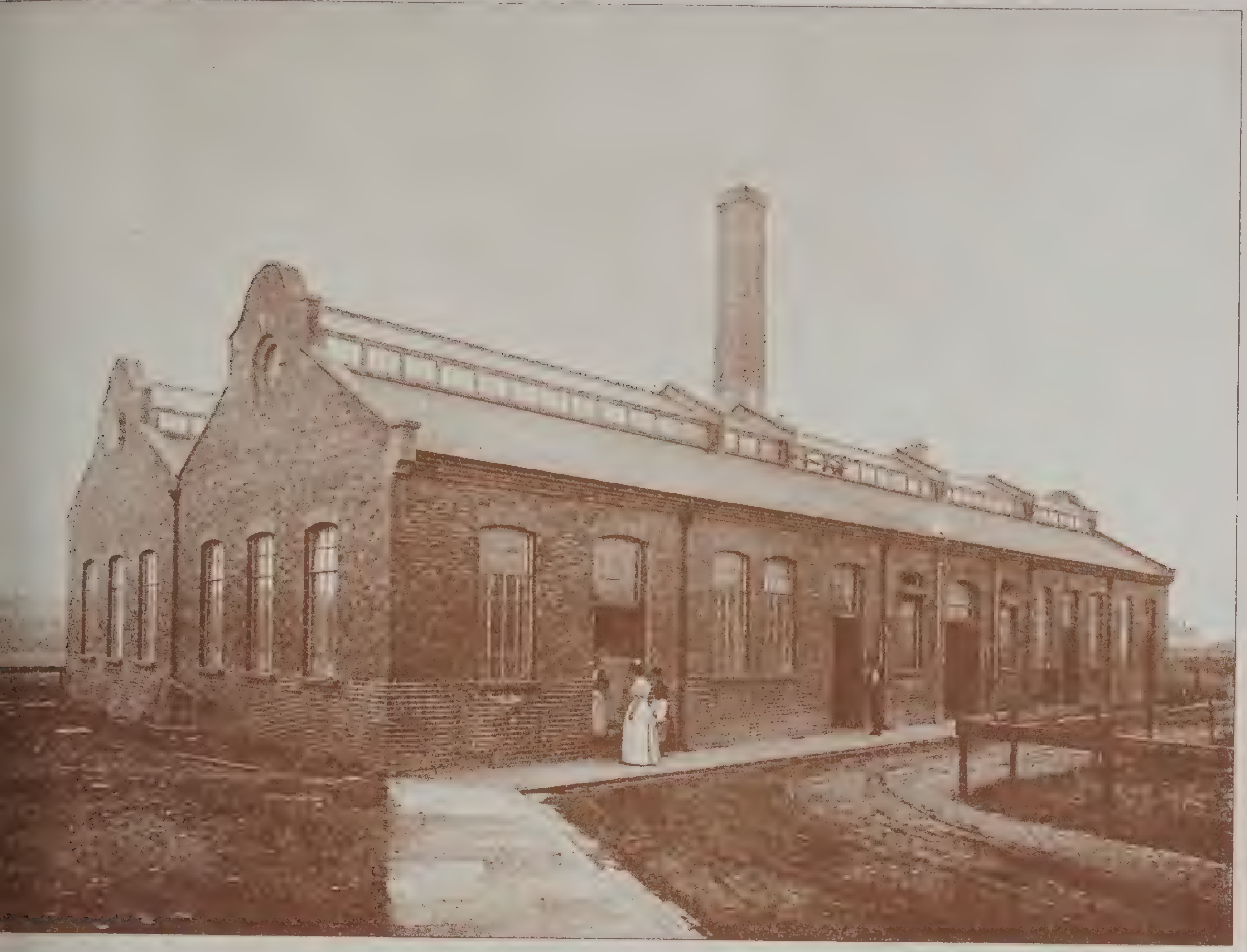
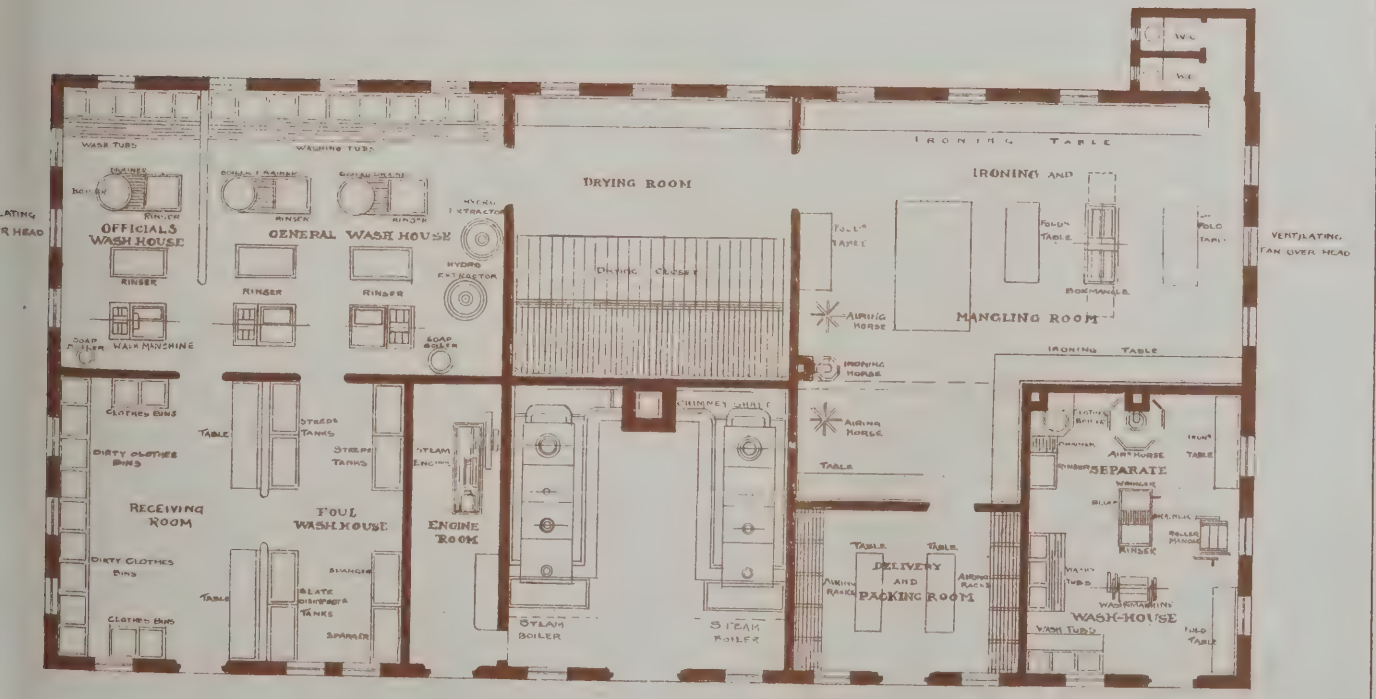
ARCADE IN CHAPTER HOUSE.





Ground Plan

C. F. Vaughan. F.R.I.B.A.
25 Lowther Arcade
Strand

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NEW LAUNDRY, HOLBORN UNION SCHOOLS, MITCHAM, SURREY.

C. E. VAUGHAN, F.R.I.B.A., Architect.

The Architect.

THE WEEK.

The judgment which was given on Monday by Mr. Justice Bigham and Mr. Justice Phillimore is likely to produce some effect in the relations of contractors and sub-contractors, or rather between general contractors and contractors for specialties. In practice it is generally assumed that there is little or no responsibility with the contractor for the latter class of auxiliaries. He has to accept certain objects, grates, or windows, or ventilators, although if left to himself a general contractor would prefer in all probability objects of another sort. In the same way, if there is delay in furnishing the specialties the contractor believes that he can escape from the usual penalties. But the judgment to which we have referred makes it plain that a contractor has to take upon himself more responsibility in such cases than has been hitherto assumed. The action was taken by Leslie & Co., Limited, against the Metropolitan Asylums Board. The plaintiffs had entered into a contract for the erection of a hospital near Lewisham at a cost of 210,000*l.* The defendants reserved to themselves the right to employ other parties to execute certain works. The payment was to be made by the contractors. The plaintiffs allege that owing to delay on the part of the sub-contractors they were unable to complete their works and to obtain the architect's final certificate. Accordingly they claimed damages from the Asylums Board on the ground that the Board were under an obligation to have the works carried out by the sub-contractors within a reasonable time. The case came before the official referee, when counsel for the Board applied that the plaintiffs should be non-suited because the firms in question were sub-contractors to the plaintiffs. This was refused, and the case accordingly was brought on appeal before Mr. Justice Bigham and Mr. Justice Phillimore. In the judgment which was delivered it was said that the plaintiffs were left to enter into sub-contracts with the specialists, and it was their duty to do so. They should have taken care to see that everything was arranged which would enable the works to be executed within the time specified, or that a penalty should be paid if the plaintiffs suffered by the delay. Having failed to do so the plaintiffs must accept the consequences. Cases of the kind do not often occur, but henceforth it will be necessary for a contractor to have a deed executed in which the sub contractor or specialist will undertake to indemnify the contractor against all loss, claims, &c., which may be sustained by reason of delay in carrying out the specified work. The arrangement is very simple, but it will be so novel much inconvenience will arise on account of it.

The authorities of the Harvard University have now completed the arrangements for the courses of instruction in landscape architecture which are to be followed in the Lawrence Scientific School. The general direction has been entrusted to Mr. F. L. Olmsted, jun., who will have several specialists to take charge of the various divisions. The courses will require four years. In the first year instruction will be given in theory, and historical illustrations of the variations in gardens will be introduced. In the second year landscape design will be studied, and in order that it might be understood lectures will be given on the fine arts and architecture in connection with landscape work. Of course the aim is to enable the students to appreciate composition, and especially the grouping of masses. Horticultural work will not be neglected. It will also be necessary to give instruction in the laying out and formation of roads, water supply, drainage, and also in geology and other allied sciences. It is a sign of the times that in America, where landscape is on so immense a scale, it should be considered necessary to take up an art which under the circumstances can only be considered as an exemplification of the infinitely little. Emerson when he first travelled in England was amazed at the smallness of everything, and with a philosophic sneer that was not becoming in a man who spent much of his life in woods, he remarked that the English landscape seemed to be rounded off with a pencil. Time has brought its revenge, and it may be expected that in Harvard, which was his own university, lectures will be delivered on the rival systems of Brown, Repton, Kent, Price, and the other improvers of nature in this country.

Many years have elapsed since the people of Paris began to live in flats or apartments. From time to time there have been lawsuits between proprietors and tenants. But strange as it may sound, there are yet many questions for which no decisions are forthcoming to serves as guides. It was only a few days ago that one of the Civil Courts gave decisions on a few points which it might be supposed needed no investigation. One is important to architects as well as to owners and occupiers. A proprietor, who in the absence of a tenant entered the apartment in company with his architect in order to make sure that there were no dilapidations, and that the rooms had been kept in the condition prescribed by the agreement, was declared by the Court to have been guilty of "violation de domicile." It is not in England alone that a home of any kind is supposed to be a castle. In many large houses, besides the principal staircase there is also one for the use of servants. By a decision of the same Court the two staircases are to remain lighted until 11 o'clock at night. It was also decided that a proprietor is to keep at his own expense the heating apparatus at the foot of the principal staircase in operation throughout the winter. As a consequence of the judgments it may be expected the rents of apartments will be much increased.

Chesterfield is generally known by its crooked spire, and the general opinion about it is that the spire is a good symbol of the town. It is one of those places where money is easily obtained, but the inhabitants apparently are afraid that strangers might come to dwell amongst them and share their gains. Accordingly, the streets are of a character that cannot be called inviting. Indifference has its limits, and, in spite of themselves, the people of Chesterfield are compelled to think of improving some of the streets of the town. It must be said that all are not agreed on the subject, for by some it is assumed that the improvers are thinking only of their private interests; otherwise no native of Chesterfield would trouble himself about wide streets. The opposition to the new scheme is likely to be diminished when it is discovered that, however extensive are improvements—and, indeed, the town should be entirely transformed if right prevailed—it will not be necessary to call on the townspeople to pay more than a fraction of the cost. The demand for the new building sites will be so urgent it is anticipated that enormous prices will be demanded. It is estimated that 50,000*l.* will have to be borrowed. But that money could be subscribed in an hour.

The importance of Dublin as a spectacle for tourists from other countries is becoming recognised by the citizens. There is a desire, if possible, to increase the amenity of the city. With that object the following resolution was adopted by the Corporation on Monday last:—"That this Council is of opinion that the time has come for the exercise of municipal control of all advertising stations or hoardings within the city, not only with regard to their situation, but also with respect to the decency and propriety of the placards or illustrated advertisements, &c., placed on such stations or hoardings, and that the existing powers, if any, in connection with this matter be immediately enforced, and if no such powers exist, then that they be sought in the next Bill which this Council promotes." There was no opposition to the proposal. All the members who have travelled in other countries must know that Dublin has a peculiar character. A large part of the city suggests contests with poverty in order to keep up appearances. On that account there is a temptation with the occupants of houses to exhibit gaudy placards, regardless of the consequences to adjoining property. As the evil is a modern creation it is unlikely there is any legal provision for combating it. But the announcement that the Corporation have resolved to assert the rights of citizens in general may have a beneficent effect in the interval before it is possible to obtain Parliamentary powers to put down attempts to make Dublin hideous.

DUBLIN IN 1861 AND 1900.

HER MAJESTY THE QUEEN has visited Dublin in 1848, 1853 and 1861. To see any place after an absence of forty years must give occasion for measuring the rate at which the law of change has operated. We cannot believe, in this country at least, that a city or a town any more than an individual should remain in the state in which we first found it. Without having any theory as to the laws of evolution, progress, development, or by what other name we may describe the general mutation, we all expect that what we see around us must correspond in some way with ourselves. It would therefore be interesting to discover what were the thoughts of the QUEEN when driving along the road which leads from Kingstown to Dublin and thence to the Lord Lieutenant's "lodge" on the other side of the city. It would perhaps be presumptuous to imagine them, but we can at least suppose how anyone who had seen various cities, and was aware of the differences between past and present in other places, would judge of what was met with during the journey.

To most people from England who visit Dublin by a similar route there is at first more or less bewilderment. Ireland is supposed to be an ancient country. Her poets bid us to remember the days of old, when architectural marvels abounded. But along the route which the QUEEN followed and which is often used not one sign of antiquity meets the eye. MOORE says that 3,000 years have passed in vain over the cottage of the Irish peasant and it is possible to see around Dublin occasional specimens of cabins which confirm his theory; but neither palaces nor churches nor other examples of ancient architecture are visible along the highway between Kingstown and the Phœnix Park. Still more extraordinary are the names which are inscribed on the streets and roads. Irish is a poetic language, and the word Dublin is supposed to be derived from some mysterious pool of great depth and gloom which was to be found in the Liffey, another expressive name, or it may be it is only a form of the Roman's Eblana. But when one beholds such names as Nassau, Dawson, Leeson, Fitzwilliam, Harcourt, Camden, D'Olier, Westmorland, Sackville, Brunswick, Dorset, one is tempted to come to the conclusion that the antiquity of Dublin is imaginative, and that it is almost as modern a city as those which spring up on the other side of the Atlantic. There are very few names on the street tablets which suggest associations with anything old or native. But the names on that account are indicative of one of the characteristics of Dublin. The people do not change their street names as often as is done in Paris. There is, however, the same tendency to recognise someone who happens to be a temporary favourite. Carlisle has to give way to O'Connell, Essex to Grattan as bridge names, and so on. In course of time it is not impossible the two bridges will bear different titles. Kingstown, where the QUEEN landed on Wednesday, was known as Dunleary until the arrival of GEORGE IV., and Queenstown, before HER MAJESTY'S visit in 1848, was called the Cove of Cork.

Strange to say, these changes are consistent, especially in Dublin, with the character of the city or rather of its inhabitants. The Irish trader is always in a state of transition. Nobody knows what he is about to become, but there is a general belief that he cannot long remain in one condition. Now this notion has an important effect on architecture. Dublin has a viceregal court, and it is imagined the country should by right have something more. The ambition of everybody is to appear as a courtier, even in a temporary palace, which is not a very difficult undertaking to accomplish. Some years ago Mr. DU MAURIER drew an interesting if common scene in an Irish household. The ruling lady, who possessed several grown-up daughters, was supposed at a time of some royal visit to be rebuking her husband for his Nationalist proclivities, and with reason, for she says, "Shure, if it hadn't been for your politics, me and the girls might be lookin' forward to takin' the flure with His Royal Highness, and ye might have been a bar'net and I should have been my lady." That was a skit on an Irish weakness which was as true as it was humorous. In Dublin it is found that after a very brief term the heads of trading firms disappear in courts of one kind or another, or in the legislature. If the name be preserved there are new proprietors. Nothing is permanent in the ordinary sense of the term. As a result people hesitate about launching into expense in order to erect new premises. If shops and warehouses have to be altered, it is in the cheapest way; it is only businesses which have got into the hands of companies that really appear to exhibit signs of progress by the evidence of finer buildings. The consequence is that anyone who in 1861 went over the route traversed by the QUEEN would discover on again making the journey during this week that in the forty years which have elapsed the changes in the character of the ordinary Dublin houses are insignificant. The two, for instance, that flank that fine thoroughfare Sackville Street, remain as commonplace as they were when first erected in the early part of the last century. They are to be recognised in all views as if they were natural features. The shop windows on one side have been slightly altered, but with that exception everything remains in the original form. The Dublin commonplace as exemplified in building is severely genuine, but it has one merit, it is not pretentious. Square lines in the openings for windows and doors, and dingy brick walls meet the eye in what FALSTAFF calls "damnable iteration." But changes are so constant in Dublin life a family will hesitate about identifying themselves with a building which from any peculiarity would become a permanent memorial of their occupation of it and a satire on their own transformation. A man of business retires from one of those dreary brick buildings after making a competence, in order to ascend to what he believes is a higher social level. He is succeeded by somebody having the same ambition, and so the whirligig of life continues for an indefinite period.

Let any one who is acquainted with the streets of London or any of its surrounding districts, or of one of the provincial towns of England, compare them with what is to be witnessed in Dublin, and they will be amazed at the conservatism exhibited in the Irish capital. The houses in general are unchanged, but it will be found that the occupants have not such abiding powers. A comparison of "Thom" for 1861 with one for 1900 will reveal the vanishing of names which were identified with particular trades or callings, and which in England would be carried on by generations of the same family. But Irishmen have the weakness which "sinks the shop." Instead of respecting family traditions and keeping up connections with families of customers, they enter into professions or become private gentlemen. The failure of all efforts to promote technical education in Ireland is mainly due to that cause. The prizes in colleges of science are carried off by students from England or Scotland. The acquisition of knowledge which could be turned to account in promoting any business followed by the student's father appears to be an absurdity. The consequence is that many trades are passing away from the city and Irish manufactures are fast becoming a mockery, if not a delusion. The example set by the GUINNESS family is therefore of great moment at the present time. They are the principal representatives of industrialism in the city, and, indeed, in Ireland. They have gained for an Irish product a reputation that is almost universal. They have been benefactors to Dublin on the most generous scale, and yet it cannot be said that their organising power, their attention to business and their respect for profits have in the least degree disqualified them for a high social position. What Dublin needs are men who, with less extensive businesses, adopt similar principles. With citizens of that class there would be a revolution in the architecture of Dublin. Indeed, we must wonder that there is not more recognition of the advantage of having an attractive house among traders. The banks, insurance offices, hotels, &c., which have been erected by companies within the last forty years form so striking a contrast with the adjoining houses, it is strange the value of architecture as an advertisement is not more generally realised.

If there is not much improvement in private residences there is some excuse for standing still. There is no city in Great Britain with so varied an environment as Dublin. It is close to the sea, to mountains, and to charming pastoral scenery. On the other hand, slums which are death-traps are to be found in close proximity to the most expensive houses. Who can blame the citizens if they desire to live beyond the municipal boundaries, using Dublin only as a resort for business purposes? Houses in some parts of Dublin are, therefore, in the occupation of a humbler class of tenants than was allowable in 1861, and modern domestic architecture can be judged more accurately from what is seen in the suburbs. This week, of course, the houses assumed a novel appearance, and many defects were concealed by flags and other decorations, but the change is only temporary and superficial. Dublin, unfortunately, is not a healthy city.

Kings and queens are expected to possess retentive memories. Her Majesty will be able to see much which did not exist at the time of her last visit. It is impossible to point out to the Queen any street improvement on a grand scale which corresponds with those to be seen in the towns of England. But works which have become characteristic of the city can be viewed which will be novel in the eyes of the Queen. The old Carlisle Bridge, designed by Gandon, the architect, which was very narrow and very steep, has been supplanted by O'Connell Bridge. Essex or Grattan Bridge is also a new work. In 1861 Dublin was supplied with water from two canals. Now it has an independent supply derived from the county Wicklow, with a reservoir which can contain about six months' allowance. The works owe their inception and success to the perseverance of the late Sir John Grey, a newspaper proprietor, whose statue has been assigned a position in Sackville Street, not far from his old offices. It is needless to say there were no tramways in 1861, although now people wonder how life was possible without them. The two cathedrals, St. Patrick's and Christ Church, have been restored since the Queen's last visit. The different railways are no longer isolated as if to hinder through traffic, for lines have been constructed to unite them. The Liffey has been improved, and new docks have been built. St. Stephen's Green has become a public garden. The most popular theatre, the Gaiety, did not exist in 1861, and the new Theatre Royal takes the place of the old house which, like most buildings of its class in all parts of the world, succumbed to fire. A royal university has given an impetus to higher education. A national gallery, a science and art museum and a public library have been called into existence since the Queen's visit. Sculpture has received some attention. The University entrance is now graced by two statues of students who were contemporaries, but were not acquaintances, Oliver Goldsmith and Edmund Burke. A statue of Henry Grattan, who was another distinguished student of the University, stands in the street in front of the building, although the fitting site for it would be in the court of the neighbouring Parliament House, to which his eloquence imparted renown. In Sackville Street is one of the largest memorials in Europe, that of Daniel O'Connell. Several new church buildings have been added to Dublin since 1861. There are also a few buildings of a more or less public character, but the Corporation continue to utilise the Royal Exchange for a municipal building.

We have mentioned the number of English names which have become appellations of many of the principal streets, and which recall the eighteenth century, when Dublin was practically the capital of an English colony. It is remarkable that the buildings which are considered to impart most dignity to the city are those which were erected from designs by Englishmen during that period. The Custom House, which is worthy to stand beside one of the Venetian canals, is the work of James Gandon, the first winner of a medal for architecture in the Royal Academy. The Four-Courts, which also is on the north side of the Liffey, is likewise to be ascribed to Gandon, or, rather, to him in conjunction with Cooley, the designer of the Royal Exchange, which, as we have said, is now the City Hall. The principal façade of the University is likely to have been erected from the designs of Sir William Chambers, although there is a letter from him in which he says that, owing to the obstacles put in his way by the authorities, he had resolved to take no part in the building. Gandon was undoubtedly connected with the completion of the Houses of Parliament, but it has yet to be ascertained who designed the beautiful screen which conceals all the parts of the building where the debates took place, and in which the business of a bank is now conducted. If in 1861 the Queen inquired who was the architect of a building which is unlike any other in Europe, the answer must have been that nobody could tell. Although there are now official students of records who have not neglected the subject the mystery continues. All that is known on the subject is so contradictory that the authorship of the design is always likely to remain obscure. It is remarkable, however, that the architects put forward as designers are Englishmen. Even when a native appears as a claimant, he has to acknowledge indebtedness to an Englishman. For instance, in a letter dated 1793 by a Colonel Hayes, he says:—"Except the windows, the building is finished exactly after my first sketch, which I showed my Lord Portarlington, and was a design as much as possible in the manner of Sir William Piers and Mr. Burgh, surveyor-general, a kinsman of mine and of the Speaker's, who were both concerned in the façade to College Green, and for which reason, among others, I wished to have the western front as much as possible in the same style." Piers was an Englishman. All these buildings show the influence of the Italian style. The fine gentlemen who had found their way to Dublin adopted that style as if it were their own creation. It was to please them John Aheron, when he brought out his treatise on architecture in Dublin about 1754, treated of the art as if there was only one style and Gothic was no more than a relic of barbarism. A character was consequently given to Irish architecture which it has not yet lost. The very few occasional attempts to introduce a Gothic façade in Dublin's streets suggest castaways which are entirely out of place in a country which cannot have any friendship for them. The only modern Gothic building which has attained success is the chapel of Dublin Castle, and even that is a case of false pretences. It is generally supposed to be a Mediæval work of the best type, but both it and the General Post Office in Sackville Street were designed by one man, Francis Johnstone, to whom the Royal Hibernian Academy are indebted for a habitation.

THE LETTERS OF MICHEL ANGELO.

It was lately announced in these columns that the correspondence of Michel Angelo, which is carefully preserved in Florence, will shortly be published. As everything about the great master has been valued highly, we may assume that his letters will always be prized as one of the treasures which make men feel grateful to the inventors of written and printed characters. In the case of Michel Angelo the letters have especial importance. He was one of the very few men who really acted on the principle that speech was silvern but silence was golden. The restraint he kept upon himself in general found some compensation in the frankness of his correspondence. His pent-up affections appeared to enjoy their liberty and rushed forward in a torrent that contrasted strongly with the severe and statuesque silence of the artist. His words really served as a transparent medium by which the action of his mind became visible. If some of them occasionally appear to be obscure to the intelligence of modern people it is because so many things have occurred that make us unable to undertake an interpretation which was easy to those who knew the man. The esteem in which the artist was held was never better expressed than by the notorious Pietro Aretino. That writer sounded all the depths of infamy, and his contemporaries were as much afraid of the revelations of his character-drawings as the courtiers of Queen Anne's time were of those of Jonathan Swift. But with all his cynicism Aretino was compelled to say that before the sculptor he must become respectful, for although there were many kings on the earth, there was only one Michel Angelo.

But the learned German who has undertaken the translation of Michel Angelo's letters will meet with one great difficulty. They are generally undated. It will be, therefore, necessary to employ much speculation in order to discover when they were likely to have been composed. In Michel Angelo's life there was not much variation, except such as arose from changing one art for another, and he continued working in that way until the end. When, therefore, a correspondent refers to a sonnet, we cannot be certain whether it was a work of his early manhood or of his old age, unless he gives some clue which is not to be mistaken. Another difficulty, and one which is melancholy, arises from the fact that, although he never allowed himself to be subjected to the strain of the ordinary man of letters of his time, or of the scholars who were his contemporaries, yet he could not prevent his memory succumbing to the action of time. In the letters of his later years there are constant acknowledgments that he had grown old, and that age, which he had looked on as one stage of death, had carried away the thoughts of his prime. Perhaps the saddest of these is the letter he wrote to Vasari *à propos* of the staircase of the Laurentian Library in Florence. We have published a view of the structure, and it will be remembered that the steps are laid out in curved lines. It was designed by Michel Angelo, but there is no certainty about his share in its construction. Vasari was at a later period entrusted with the completion of the work, and by desire of the Grand Duke the old master was besought to give advice about what was originally contemplated.

He was compelled to say, "I can only recall that staircase as if it were something I saw in a dream." And then he goes on to relate that he believed he obtained a great many oval boxes, and that he ranged them side by side and then placed others on top of them, and so went on till he had reached the level of the library. That he divided it into two divisions—one for the people who were entering, the other for those who were departing. What he said, he told his correspondent, would excite laughter, but he could not be more precise. We suppose his reminiscence bore some relation to his original design. As became a sculptor, Michel Angelo found sketching on paper was insufficient, and instead of making a small model in clay he had recourse to blocks or boxes which had the same height, *i.e.* one palm, as the risers of the staircase.

The staircase was a trifle compared with Michel Angelo's scheme for St. Peter's. Bramante, although he showed himself to be inimical to the sculptor, was admired by him, and he bears testimony in one of his letters to the clearness and simplicity of that architect's scheme for the decoration of the church. He did not hold a like opinion of Antonio Sangallo, whose scheme found no approval with Michel Angelo. It is an old proverb, The nearer the church, the farther from virtue. This was exemplified at St. Peter's. The desire of Sangallo to avoid monotony was so great that in consequence he created a number of nooks and corners in the upper part of the building, which were immediately utilised by robbers, coiners and other criminals. According to Michel Angelo it was necessary to employ twenty-five men every day when the church was about to be closed in order to turn out those trespassers. It is also curious to find Michel Angelo expressing regret that it was necessary to demolish the chapel of St. Paul, the chambers where the seals were affixed to the papal bulls, and many other ancient offices. About his own work at St. Peter's, he acknowledges in a letter to one of his family that he believed it was by Heaven's will he was selected to be the architect of St. Peter's, but he found he could not advance with the works at the rate he desired, owing to the want of money and of men. He would have abandoned all, he confesses, if it had not been for the hope that the church would be his own memorial. He was, moreover, afraid that those who came after him would change and spoil his plan, and in fact he did not wish to encourage robbery of his designs, especially as he knew the robbers who were awaiting the occasion.

The great sculptor devoted such perpetual attention to anatomy, we need not be surprised he came at last to the conclusion that the human figure was to be accepted as the universal standard of proportion, and that anyone who was not a master of anatomy never could be an efficient architect. In a letter to a correspondent who has yet to be identified he says that there must be a certain correspondence between the members of an architectural work as there is between the members of the human body. Hand has to be like hand; one eye has to correspond with the other. By analogy, when a plan, he says, is made up of a variety of parts, all those which are alike in quality and in quantity should be ornamented in a similar manner. But just as the nose, which is in the middle of the face, has no affinity to the eyes, so when there is a change in the disposition of a plan, then it is not only permitted but necessary to make a change in the ornamentation. This is an exposition of symmetry which was well adapted to the stately secular buildings of the time. It may give a clue to some of Michel Angelo's ideas about the application of painting and sculpture to architecture.

It was no less characteristic of him that he should lay down the law that a painting becomes valuable in proportion as it approaches the character of a bas-relief, and on the other hand, that a relief became deteriorated when it appeared to be inspired by painting. It was on that principle he painted the Sistine Chapel. But he did not believe that painting was inferior to sculpture, although in a joke he once said that oil-painting was only fitted for women and lazy fellows like Sebastian del Piombo. Sculpture and painting he considered were derived from the same intelligence, and he considered that all disputes between the representatives on the subject should be set aside, because time was wasted in the controversy which would be better employed in drawing or modelling figures.

Although he was able to find analogies between the human frame and architecture, Michel Angelo did not seem to have carried out his idea fully and to have recognised that there may be malformations in both. Like all men who pursue the ideal, he was pained when he had to encounter the carelessness of workmen. There are two letters to Vasari in which he tries to explain the defects which arose during the construction of some of the small vaults in St. Peter's. Michel Angelo's diagrams were misunderstood, and he said that if it were possible to die of shame and grief his life would have come to an end. In this case the artist took the precaution to make a model for the masons to follow; but as he was ill and the men knew that he would be unable to visit the works as often as formerly, they were indifferent to their own blunders and the pain which the designer would have to suffer. It was necessary to remove a large part of the vaulting, and as Michel Angelo knew that very many critics were ready to condemn the slightest failure, we can easily understand how he became sick unto death.

We are so accustomed to consider the sculptor as a giant who was able with his own hands to hew colossal works, it is difficult to realise that he could feel the weakness of declining years. He lived more simply than can easily be imagined. His household appears to have consisted of one servant, the faithful Urbino, whose real name was Francesco Amatori. When he died, after twenty-six years of fellowship with his master, Michel Angelo, who had watched over his last days as a nurse, said he had lost the staff of his old age, and there was nothing more for him but infinite sorrow. While he was in his solitude Cornelia, the widow of Urbino, who had charge of his godson, wished to send the child to him. He wrote, saying that he could not receive the boy because there was no woman in his house as a servant, and there was no housekeeper. But if the child were sent to Florence, where he hoped to find a refuge, he promised to take more care of him than of the children of his own nephews, and to teach him all he knew. It was a strange fancy that seized hold of the artist, for who could expect to see so austere a man in his old days surrounded by noisy children and endeavouring to impart to them the elements of his art? Vasari relates an anecdote which suggests the loneliness of the artist. Michel Angelo had injured his leg, and when a doctor heard of his illness he resolved to visit him, but there was nobody to receive him, and he was compelled to enter unannounced and to seek out the room where the sculptor was lying. There he remained attending him night and day until Michel Angelo recovered.

We may suppose that Michel Angelo in his last days, when a passion of fury to create came over him, was able to execute an amount of work with his arms which was enough to amaze amateurs. Blaise de Vigenère, who was secretary to one of the embassies in Rome, and who saw Michel Angelo during his last year's sojourn in this world, said he was able to knock away in a quarter of an hour more marble from a block than three young stonecutters could accomplish in three or four. His force was incredible to all who did not witness it, and he worked with such impetuosity it seemed as if he would destroy the figure he was working at. From the time he was compelled to work lying on his back in painting the vaulting of the dark Sistine Chapel his eyes gradually became weaker, and at last he might be considered as a blind man. It must have been a touching scene to have seen him conducted to the Vatican in order that he might have the pleasure of feeling the antique statues with his trembling hands, or to press his lips to the mighty torso which was the work of a similar genius.

It will be an interesting problem to discover whether the correspondence which is being prepared for publication will much affect the idea which has been formed of MICHEL ANGELO. His external appearance has been made known by several portraits, which confirm the description of VASARI, who says he had a round head, a square and capacious forehead, full temples, a nose that was deformed by TORREGIANO's blow, rather small brown eyes, thick eyebrows, thin lips, a well-developed chin, black hair, and a scanty beard. He was of middle height, with broad shoulders, well made, a healthy complexion and a nervous temperament. We also know that while he seemed to be exhausting himself by his vigorous carving or painting he was satisfied with no more food than a little bread and wine. He slept for few hours, and when awake he used to arise in the night, put on his pasteboard cap, which contained a socket for a candle usually made of goat's tallow, and which afforded light enough to enable him to work. We know, too, that he lived in defiance of sanitary laws. He made no scruple about sleeping in the clothes he wore by day, and he used to wear dog-skin stockings without changing them for months together. The fragments of his conversations and the letters by him which have appeared allow us to arrive at some conclusion about the great quality of his heart and intellect. Words were not always the most efficient means of expressing his thoughts, but we have enough to indicate an outline of his mental portraiture. All his letters, when published, will help us to fill in details, but the MICHEL ANGELO who is hereafter to be revealed will probably not differ much from the grand being who has exercised so much influence on art.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. J. M. Brydon, vice-president, in the chair.

Mr. Alexander Graham, hon. secretary, announced the decease of the following members :—F. W. Stevens, C.I.E., elected fellow in 1883; Edward John Lowther, who was elected an associate in 1882 and a fellow in 1899; Charles Hy. Purday, elected associate in 1878; W. James Anderson, elected associate in 1893. Mr. Anderson in 1888 was awarded the "Alexander Thomson" travelling studentship, and published in 1890 a volume of "Architectural Studies in Italy," containing drawings and sketches made during his tour. In 1896 he published the "Architecture of the Renaissance in Italy."

The Secretary read a paper written by Mr. John Honeyman, R.S.A., on

Working-Class Dwellings.

Mr. Honeyman's paper discussed the effect of injudicious legislation in the matter of building regulations. He said that local authorities seemed to ignore the fact that the more their restrictions as regards number of storeys, height of ceilings, width of passages, &c., increased the cost of the dwellings, the higher must the rent be. Dwellings of the early Peabody type, though the ceilings were low and the buildings high, were perfectly healthy, the death-rate being lower than the average. The building regulations of most of the large provincial cities made the erection of dwellings at moderate rents impossible. The better class of artisans are sufficiently catered for. The great and growing difficulty is the provision of wholesome houses for unskilled labourers and the poor whose earnings were not more than 1*l.* a week, and not only the respectable poor, but the families of the dissolute, the intemperate, and even the criminal. As modern regulations made the erection of dwellings for the poorest class unremunerative to private enterprise, the municipality itself should undertake the work. But municipal corporations failed to recognise their responsibility. The author gave Glasgow as an instance. To meet the immediate needs of that city 2,000 dwellings were required, with an annual addition of 200 more to keep pace with the increase of population. The Corporation, however, had confined itself to the erection of a class of dwellings which could be provided without their assistance, with the result that in 1898 4,642 such houses—chiefly artisans' dwellings—were tenantless. Some relaxation of present building regulations must be permitted in order to provide houses which the poor can afford to pay for. They must be content with what is essential, and avoid what is merely desirable. Criticising a regulation prohibiting single-room dwellings, the author contended that for the very poor a house of one apartment for married couples and small families of young children was a perfectly suitable dwelling both on economical and sanitary grounds. Compelling people to have more accommodation than they needed or were able to pay for only led to the overcrowding of houses by the introduction of lodgers. The lower in the social scale, the less a man could afford for rent in proportion to his income. Discussing remedies, the author said the alternative was forced upon the authorities either to relax building regulations or to supply the houses at unremunerative rates. The adoption of the latter alternative the author deprecated on economic grounds, and as increasing the burdens of the ratepayer. The difficulty, he considered, could be solved by either modifying building restrictions or exempting such houses from their operation. The principle of exemption had been recognised by the promoters of the Glasgow Building Regulations Bill now before Parliament, which proposed to empower authorities to relax or modify any enactments or by-laws in the case of blocks of labourers' dwellings containing more than twenty-four separate dwelling-houses. Similar powers might safely be entrusted to the municipalities of large cities with private Acts; in other cases the sanction of a superior independent authority should be required. The laws against overcrowding can never be rigorously enforced until sensible provision is made for the housing of the poor. The fact that their dwellings must be near the place where their precarious living is earned constitutes sufficient difficulty, which should not be increased by injudicious legislation.

II.

Mr. Henry Spalding read a second paper on the subject, and dealt with the Associated Dwelling and Self-contained Tenement Systems. He said that however successful block buildings may have been as schemes for housing the working-classes, as rehousing schemes they had signally failed. Slums had been swept away and the inhabitants had gone to overcrowd other places, while quite a different class of people had occupied the new buildings. The great difficulties they had to face were the ever-increasing cost of building, and of obtaining land suitable for the erection of dwellings at a reasonable price. In this class of work architects must practise the most rigid economy in planning and fittings. Little money could be spared for ornamentation, but by a judicious use of the materials at their disposal a good effect could always be obtained. Block dwellings, broadly speaking, were divisible into two classes :—(1) Associated dwellings, in which the offices are common to two or more tenements, or if separate are placed in blocks away from the living-rooms, and approached from the staircase or corridors; (2) self-contained tenements, in which all the offices are inside the front door. The associated dwellings can be made the most economical, and should be used for tenants of the poorest class. One objection to having common sculleries and w.c.'s is that a certain amount of supervision is necessary, and when two or three of the tenants are responsible, cleanliness is often neglected. If separate offices are provided for each tenement, and these are all placed in one block, accessible from the corridors, a great deal of space is taken up for which there is no return in rent. Of the two systems the author favoured the self-contained tenements, provided the class of tenants the buildings were intended for could afford the increased rent. The plan must depend upon the class of tenants to be housed. Tenements may consist of one, two, three, or even four rooms. The single-room tenements are on the associated plan. In dwellings for the poorest, sculleries are not provided, and the sink is placed in the living room. Where there is a scullery a copper should be placed in it, and balcony space provided for drying purposes. If a copper is not provided laundries may be conveniently placed in the courtyard, or in the attic storey. A convenient but less economical plan is to provide separate laundries to every five tenements. In the courtyards may be placed such buildings as workshops where the tenants may do small repairs, and a place where tools, barrows, &c., may be stored, and, especially in dwellings of the associated type, extra urinals and water-closets. In both the associated and the self-contained systems the tenements may be approached direct from the staircase or from a balcony running the entire length of the block, with two or three staircases according to the number of tenements. The author described in detail the plan and arrangements of the Oldham Road block of labourers' dwellings erected by the Manchester Corporation in 1893. The site occupies a superficial area of about 7,832 square yards, of which about 3,430 are covered by the buildings. The site is rectangular, and the buildings are ranged round its four sides, leaving in the centre a spacious recreation-ground. The block comprises sixteen shops and cellars, four laundries and drying-rooms, 237 two-room and 48 single-room tenements, the double-tenements for families of four or five persons, the single for one person. Details were also given of the dwellings proposed to be erected by the London County Council on the Millbank Estate, Westminster. The author laid stress on the importance of securing cross-ventilation from front to back of houses as had been arranged in the Millbank Estate. Such tenements were far healthier than the houses usually occupied by artisans. An official report showed that during the five years 1894-98 the average death-rate in five blocks in Houndsditch was 12 per 1,000, whilst for London during the same period it was 18 per 1,000.

III.

Mr. W. E. Wallis, who followed, gave an account of the buildings erected by the Peabody Trust. The sum left by Mr. Peabody amounted to 500,000*l.*, his object being to provide good and wholesome dwellings for the poorer working classes, which could not only be let at considerably lower rents than those ordinarily charged, but would also return a fair percentage on the capital expended. That the original object was attained was shown by the fact that 1,300,000*l.* had been spent on land and building up to the end of last year. The average weekly earnings of the head of each family in residence was 1*l.* 3*s* 1*d.* The average rent of each dwelling was 4*s.* 9¾*d.* a week, and of each room 2*s.* 2*d.* The rent included free use of water, laundries, sculleries and bathrooms. Having briefly described the earlier Peabody buildings, the author turned to those of more recent date. These were superior in every way to everything that had preceded them. The blocks are five storeys high, except the centre portion, containing laundries and drying-rooms, which is six storeys. There are ten rooms on each floor, with two sculleries and two water-closets in well-ventilated corridors outside the dwellings. Keeping sculleries and water-closets outside the dwellings the author considered far better than making the dwellings self-contained. The rooms are divided into dwellings of one, two and three rooms, and are let at average rents of 3*s.*, 5*s* 6*d.* and 6*s.* 6*d.* respectively. The laundries are fitted up with four sets of coppers and washing-tubs, with water laid on to all. The windows are louvred and the floors asphalted on concrete. Space is economised in corridors and passages, and ample light secured to all parts. The rooms are 8 feet 6 inches in height, the living-rooms 13 feet 6 inches by 11 feet 9 inches, bedrooms 13 feet 6 inches by 9 feet 9 inches. The single living-rooms are 14 feet 6 inches by 12 feet 6 inches. The author enumerated the materials employed in construction and gave a description of the fittings of the various rooms, staircases, sculleries, w.c.'s, methods of ventilation, drainage, &c. Dust shafts were attached to each scullery. These the author considered were far preferable to sanitary pails both on the score of health and convenience. Touching ventilation, Mr. Wallis disagreed with the view that buildings could not possibly be healthy unless the wind could blow completely through them—an idea that had even been extended to staircases and dwelling-rooms—and that bedrooms should not be entered direct from the living-rooms. In deference to this view the London County Council architect had to provide in the Council's buildings back passages, although neither direct light nor air could be given to them. Such passages were bad in the extreme, besides adding considerably to the cost. As to the bedrooms opening out of the living-rooms where fires were daily kept going, there must always be a considerable change of air of all the rooms. In these dwellings the birth-rate for the year was 33·1 per thousand, 3·6 above the average for all London; and the death-rate, including fifty-four tenants who died in hospital, 14 7 per thousand, 4 0 per thousand below the average London rate. In this matter of averages, the author considered that the benefits derived from good sanitary dwellings could be better appreciated by striking the average not for the whole of London, but for the district in which the dwellings are situated.

IV.

Mr. Owen Fleming, one of the assistant architects to the London County Council, followed with a paper on the "Rebuilding of the Boundary Street Estate." He first dealt with the financial conditions under which the rebuilding scheme had to be carried through. The first section was designed upon the understanding that a hundred years' sinking fund would have to be provided for, the estimate calculated on this basis showing a surplus of 12*s.* per annum. After the working drawings, specification and quantities were completed, the sinking fund term was reduced to fifty-five years, with the result of converting the surplus into an annual deficit of 174*l.* 8*s.* 10*d.* This deficit had hampered the development of the estate. The first buildings were designed in a plain, simple style. Though not architecturally suitable for the position, they were good, comfortable buildings, and were now very popular with the tenants. By the time the second section was completed the deficit had been cleared off and surpluses were accumulating. Architecturally this second section was more satisfactory. It contained also the cheapest buildings ever built by the Council. Cleeve Buildings cost 79*l.* per room, Sonning 68*l*, Marlow 67*l*, Shiplake 68*l.* An experiment tried in the south-east angle of constructing only two self-contained tenements per landing was a failure financially, and the public did not take to the external treatment of the buildings. Before the final blocks were commenced complaints began to be made about the smallness of the rooms in the blocks already erected. Private sculleries were also demanded, and a larger proportion of self-contained tenements. The result was a general improvement in the standard of accommodation, and the tenements afterwards put up were made more commodious and comfortable. The change, together with the rise in wages and price of materials, largely increased the cost per room. It was expected, however, that the rents would be sufficient to meet current expenses and the interest on the capital expenditure for land and buildings, and to provide a sinking fund to redeem the expenditure within from fifty-two to sixty years. The author considered the financial limitations needlessly severe. Better accommodation and buildings more worthy the care and labour bestowed on them would have resulted if the sinking fund term had been extended to 100 years. Mr. Fleming next described the plan of the estate, and gave full details of the various extra buildings and grounds for the convenience and recreation of the tenants. Of the 1,069 tenements 541 consist of two rooms each, exclusive of scullery, 400 of three rooms each, 103 of four rooms each, 15 single rooms, and 10 special large tenements. Of the same buildings, 601 are entirely self-contained, 201 have the private water-closet detached, 90 have private water-closet and scullery outside the tenement, 142 have a private water-closet outside the tenement but use a common scullery, while 35 use both scullery and water-closet in common with other tenements. The estate accommodates 5,380 persons. The cost of erection was about 91*l.* 10*s.* per room, including all foundations. The cost of the land worked out at about 21*l.* 16*s.* per room. In concluding, Mr. Fleming paid a warm tribute of admiration to the manner of the conduct of the work by Mr. Blashill, the Council's late superintending architect. He also referred to the architectural skill displayed by the younger architects, who had impressed very interesting individualities upon different portions of the estate. Many of them had studied together in the classrooms of the London Architectural Association.

The Chairman said he regretted Mr. Honeyman had been unable to be present. There were many points in the papers. The chief problems to solve were, how to rehouse the people turned out, how to build economically and efficiently, and how to house properly the working classes near their work.

Mr. T. Blashill, who proposed a vote of thanks to the authors of the four papers, said the real question at issue was how to build some sort of cheap and healthy dwelling that the poorer classes could live in. The various authorities seemed to think that an artisan's dwelling should be perfect and arranged with every convenience, whereas there was no class of people whose houses were perfect, and it seemed overstepping the mark to devote so much attention to acquiring extraordinary comfort for the artisan. The philanthropist was ever ready with suggestions toward that end. It was impracticable to build for poor people. Proximity to their work was too much insisted upon; the average tenant of this class of tenement did not always desire his work to be in the locality; the great bulk of these people would go a mile or two for their work. Altogether the speaker thought the papers had shown the many sides of the problem. He was much struck with the justice of Mr. Honeyman's remarks, and it was interesting to have an opinion from Glasgow, because the question was considered there before it was in London. The single room dwelling was really a very good habitation in some cases.

Mr J. Douglass Mathews seconded the vote. He said that dwellings of this kind should be left to private enterprise. The public authorities should not waste the ratepayers' money in such a speculation. The ordinary artisan had not to live very near his work, but with the unskilled labourers the case was different; their smaller wage necessitated their living in the vicinity of their job.

Mr. Wm. Woodward supported the vote.

Messrs. Hy. Lovegrove, E. H. Hudson and H. H. Statham also joined in the discussion.

Mr. F. E. Robertson, C.I.E., late president of Egyptian State Railways, will deliver the certificates to the students of the Crystal Palace School of Engineering on Wednesday next.

TESSERÆ.

Saxon Fonts.

Though affusion was allowed in certain exceptional cases, immersion was the rule of the Church for many centuries. Therefore the laver in the old baptisteries was a reservoir, into which people descended by steps. But about the eleventh or twelfth centuries baptism by affusion became common in the Western Church. In the Saxon Church, with its Eastern traditions, affusion was expressly forbidden; but the Normans, with their zealous adoption of Roman practices, would in all likelihood introduce the custom of affusion. How do these facts bear upon the non-existence of Saxon fonts and the abundance of Norman fonts in our churches? In the Celtic churches of Ireland and Wales and Cornwall we find something which reminds us of the primitive baptisteries. Petrie, in his "Ecclesiastical Architecture of Ireland," mentions a well at Tobar-na-Druadh, near Sheepstown, county Kilkenny; St. Bridgid's Well at the Faughard, county Louth; and Lady's Well, near Dundalk, which have stone-vaulted buildings over them like the contemporary "oratories" of the Celtic saints, and were probably used for baptism. Mr. Haslam describes an oratory with a well in it at St. Madern's, Cornwall:—"The oratory was built near a little stream, which flows under its south-western angle; here a well had been excavated, which is continually fed by the clear stream as it passes onward. The well is enclosed by rude masonry, having an aperture to the nave about 4 feet in length, and about 1½ in width." In Wales there is a holy well—the Fynnon Vair, at Wygfair, near St. Asaph—in which the spring rises at the west end of the church, and is enclosed in a stone basin of stellar plan, and is conducted from this well into the south transept of the church, in which another small bath or font is made to receive it. History furnishes us with an illustrious example of a baptism in the Saxon Church, in a font which still remains. When Paulinus baptized Edwin, king of Northumbria, a little wooden oratory was erected round a spring of water, and the king was baptized therein; the permanent church was afterwards built so as to enclose this wooden oratory; the permanent church grew into the present York Minster, and the spring still exists in the crypt. These, however, are all exceptional instances, and the questions still remain unsolved—How did the Saxons ordinarily practise baptism? How is it that we have no Saxon fonts left in our churches?

House Painting.

The average painter's work, even when smooth and mechanically good (country work is generally the reverse), is unsatisfactory in the extreme. Except white and the very darkest shades of all, paint is open to the accusation of being fat, clayey and chalky, and under the condition known to painters as "flat," friable and useless. And there is no doubt that the old grained oak, of which we are all sick on account of its wriggles and affectations and knots, was better and far more enduring work. The curious thing is that, when we began to see the folly of the affected imitation of the rays and knots of wood, no one seems to have thought of telling the grainer to use his comb alone, and to use it straight, retaining the useful work and getting rid of the folly. At worst it was transparent work, and the fat and clayey aspect was not there. Practically there is not the shadow of a reason why we should not have all colours, even ivory white, painted transparent, and with very great æsthetic advantage all round; the colours are much more beautiful, less positive, less mechanical. There is no difficulty but the temporary one of the lack of painters who will consent to do it, for no doubt it involves a little more care, and in the quirks and angles of mouldings much more care. Flatting should be positively forbidden. A housemaid can wash it off as if it were water colour.

French and English Churches.

The French architectural student would be as much struck and learn as much, on visiting a group of English churches in some district where neither design nor workmanship is spared, for instance, Lincolnshire or Northamptonshire, as we should by a corresponding group of French churches. The former exhibit a depth, purity and delicacy in mouldings, a studied elegance in the tracery of windows, a symmetry of outline and refinement in proportions, with a careful exclusion, from an early period, of every incongruous element, which are not so apparent in the French specimens. But in the latter we find a massiveness and grandeur which we look for only in our own large conventual churches. Most of them are either wholly or in part vaulted with stone. Many have the main features belonging to a cathedral, the pier arch, the triforium and the clerestory, and these are so designed as to avoid giving the idea of a model in miniature. The central tower is, on the whole, more prevalent than in England. In some districts it forms the rule rather than the exception, while in others it is very rare. In Burgundy it is the property of all the styles, from Romanesque to Flamboyant; in Touraine it is apparently confined to the Romanesque, or early Transition. As in Germany it is often octagonal, and the spire shows itself at an early period. The apse is also a more common feature than in England, though in many districts it by no means prevails to the exclusion of the square chancel; indeed, in the smaller Romanesque buildings in the north of France, the latter is probably of more frequent occurrence. In Southern France the apse is more nearly universal. Where there are aisles or transepts the main apse is usually flanked by two smaller ones. This arrangement, however, was not unusual in England, as is proved by the large arch so frequently visible in the eastern wall of a transept. The apsidal aisle, with radiating chapels is of frequent occurrence in the larger Romanesque churches; in the succeeding styles it became commonly the eastern finish of cathedrals. Where later additions have been made the most unexpected and picturesque combinations present themselves. The large and lofty chancel is added to the nave designed for a smaller structure, or the raised clerestory and roof of the nave almost swallow up the low central tower. The original nave becomes an aisle to a nave of later date, and the central tower becomes a lateral one. Aisles and chapels are added with but little reference to the scale of the building, and frequently have the effect of a series of transepts joining each other and terminating in gables.

Symmetry of Organ Fronts.

It has been thought proper for about four centuries past to build organs with fronts symmetrical, as far as the eye can judge, with respect to right and left. So strongly have organ-builders been impressed with this imagined necessity that though the Abbé Vogler at the end of the last century employed his ingenuity in simplifying the interior construction of the organ, a principal part of his system being that all the grooves which convey the wind to the pipes should be arranged in their natural order, and though his system has been adopted in its main features by several organ-builders, it does not seem to have occurred to the Abbé himself or to those who have taken up his system that the front pipes also might as well be arranged in their natural order. Indeed one of the objections started against Vogler's simplification system is the slight difficulty of accommodating it to a symmetrical arrangement of the front pipes. But, to state the question concisely, is it wise to go to a considerable expense in roller-boards and conveyance tubes, contrivances which do not improve the working of the instrument, but the contrary, only for the sake of having the front pipes symmetrically arranged? The apparent symmetry of most organ fronts is unreal, for the corresponding pipes are not in fact of the same length, as will be evident on looking at their other sides. If Vogler's plan be adopted for the interior construction, the law of reality evidently requires that the front pipes should, like the rest, be arranged semitonally. It is fit to mention that organs built according to the Abbé's plan cannot be cramped in width (about 10 feet would be required for a moderate-sized organ), but, on the other hand, their depth from back to front is less than that of others. Such a form is well suited for standing at the side of a church. It must be added that the open diapason pipes are best placed in front, as is usually done, in order to secure to them their just predominance. The bass octave must then not be made of wood, because the appearance of the front would be thereby spoilt, but it may be made of zinc, and this is much less expensive than "good metal," which is the technical expression for a compound of lead with a considerable proportion of tin. The organs in Spain and Portugal almost always have their trumpet pipes projecting horizontally from the front and sides of the instrument above the tops of the flue pipes. As the sound of a reed pipe must issue chiefly from the end of the tube, this plan is evidently more favourable for the sound reaching the congregation than the usual English plan of placing the pipes vertically, whereby the greater part of their sound is sent up first to the roof of the building.

The Van Eycks.

The best authorities are generally agreed that Hubert van Eyck was born about 1370 and John about 1390, and that their discovery of a new process of painting in oil was made before 1415. Of course, oil-painting had long been in use, certainly from the twelfth century, as Theophilus describes the process, but only in an undeveloped form and for inferior purposes. No doubt slight improvements were made, and it is quite possible that a partial use of oil was made in some panel pictures, such as those by Broederlam at Dijon. But any way, the simplification and perfecting of the process was due to the Van Eycks. Their discovery brought about a great change. Hitherto painting had been subservient to architecture, but now it began to be independent. Instead of being confined to the ornamentation of the surface of walls, its aim would be to create illusion and by the perfecting of linear and aerial perspective to make the spectator forget the existence of a flat surface. It thus became a direct imitator, or by idealisation a rival of nature.

NOTES AND COMMENTS.

Admirers of Jozef Israels, and we suppose they form the majority of amateurs, will be glad to hear that a book from his pen has just appeared. It relates his journey to Spain in 1894, when he was accompanied by his son and a friend. His visit to the Museo del Prado, Madrid, afforded him unbounded delight. He had longed to see the works of Velasquez, and at last they were before him. He found that the works of the master corresponded with the ideas he had formed in his youth. Velasquez, as he points out, was unable to make use of models that were nude, and consequently he was restricted to pieces, mainly portraits, in which only draped men and women appear. But M. Israels, with all his enthusiasm for the Spanish painter, refuses to accept the modern opinion that he was superior to Rembrandt. Velasquez worked under the happiest conditions, with a mind untroubled, for he enjoyed the favour of the king, while Rembrandt was always in straits. There is consequently little or none of the struggle apparent in the Spaniard's works which becomes so evident from the nervous character of the Dutch master. The emotions excited by the *Night Watch* are very different from those felt before *Las Lanzas*. Much as he admires the portraits of the two masters, M. Israels thinks that neither of them has produced anything comparable to the unknown *Cardinal* by Raphael. He says he stood before it and was unable to go away; a chair had to be brought to him that he might contemplate the masterpiece at his ease. At one moment it appeared to him as a modern work. At another it seemed to belong to all time. It expresses, he says, the thoughts, the soul, the character of the subject. The thin cheeks indicate a man most of whose life was spent in a cloister, and the tightly pressed lips suggest a spirit of reflection and of meekness. M. Israels believes there is more poetry in that single portrait than in many of the pictures of saints and angels in the same gallery. When we consider how wide is the difference between M. Israels's peasants and fisher-folk and the Roman prince, his tribute to Raphael's magic becomes more emphatic.

The Council of the Canton of Geneva are resolved to uphold the credit of the country in manufactures. With that object they have just passed a law which henceforth is to be binding on all apprentices and those who have charge of them. Every boy or girl of the age of thirteen is expected to be taught a business, and on that account will come under the control of the Department of Commerce and Industry. It is directed that the particulars of the apprenticeship should be delivered to the officials, and the State will see that the conditions are properly carried out. The master or "patron" is bound to act towards his apprentice "en bon père de famille." The apprentice is to be loyal to his master, and under no circumstances is he to divulge any of the secrets of the industry or to give information about the business of the house. The State Commissions will arrange between themselves concerning the investigation of the manner in which the masters carry out their duties. For that purpose there will be annual examinations of apprentices, and diplomas will be awarded to those who pass them with success. Rewards will also be given, and there will be travelling studentships for the apprentices who show especial aptitude. Masters who succeed in turning out successful competitors will also be distinguished. The average number of hours for employment is to be ten per day, but it may be increased to eleven. Only in exceptional cases will apprentices under eighteen be allowed to be employed more than sixty hours per week. The time occupied with theoretical and religious instruction is to be counted in the day's work. Any departure from the rules of the State is to be punished by fines varying from five to five hundred francs, which may be doubled if there should be a second infraction of the law. How the new regulation will work has yet to be ascertained. In Mediæval times apprentices were under public control in London and other places, but the Geneva law is adapted to the requirements of the present time. A large number of theoretical people in this country imagine that the days of apprenticeship are over, and that in polytechnic schools more competent workmen can be trained. This is a fallacy. On the other hand, there is a risk among us that when training is confined to workshops there is a danger of empiricism, which is not easily overcome at a subsequent time. The people of Geneva, with characteristic shrewdness, have combined theory and practice, bringing the workshop to the aid of the classroom; and it would be well if instead of wasting immense sums on what is called technical education, which can only create amateurs, our Government would adopt the new Swiss law "sur le travail de mineurs."

The first annual report of the Scottish Society of Ordained Surveyors has appeared. It relates mainly to examinations. In Scotland a surveyor is to some extent a public officer, and the subjects for examination have to be approved by the magistrate and sheriff or local judge. Four applicants presented themselves for the preliminary examination, which was held on February 22, 1900. Two had each obtained a school certificate, which exempted them from examination in one subject, and were successful in passing in the remaining two subjects. One applicant passed in two subjects, but failed in the third. The fourth applicant held school certificates in three subjects, and was exempted from examination. Two candidates presented themselves for the final examination, which was held on February 22 and 23, 1900. The petition of one applicant was sent to the lord provost and magistrates, and of the other applicant to the sheriff, and in both cases remits were made to the examining board of the Society to examine and report.

The Rothschild family have been most generous in their gifts to the Louvre. To say they have shown princely munificence would be insufficient, for the French kings and princes, when they existed, were not remarkable for bestowing their treasures on the public. The latest gifts are those bequeathed by Baron Adolph Rothschild. Like most members of his family he was a collector of all that appertained to industrial art, and as he was willing to pay liberally for anything that pleased him, he soon possessed a rich museum. His collection of the art of the goldsmith, of jewels, faïence, enamels, &c., which was worth more than 200,000*l*., has passed into the custody of the conservators of the Louvre. The Baroness proposes to present a sum of 12,000*l*. for the decoration of the gallery in which they will be exhibited. In that way it may be expected that the Galerie d'Apollon will not be without a rival. By an interesting coincidence the English public will in a few days be able to enjoy the sight of the no less beautiful examples of art with which the late Baron Ferdinand Rothschild endowed the British Museum. The "Waddesdon Bequest Room" has been prepared, and the whole of the objects are arranged. Next week it may be expected that the number of visitors to the Museum will be largely increased.

London architects must feel indebted to Mr. C. H. Lowe, the clerk of the Tribunal of Appeal under the London Building Act, for his "Manual for Appellants" (P. S. King & Son). In that Court every man can be his own lawyer, and there is no need of solicitors, counsel or witnesses unless their presence is considered advisable by appellants. The tribunal is, therefore, the most successful experiment yet devised for making law cheap. Of course, fees have to be paid, for an English Court must at least be self-supporting, but the amounts are not excessive. There are two scales of fees, and from the information in the little book it is easy to see which will be applicable to an appellant's case. A register is kept of appeals, and all documents, including plans and orders, are open to inspection by the public on the payment of a small fee.

ILLUSTRATIONS.

WESTMINSTER ABBEY: CHAPEL OF ST. NICHOLAS.
REREDOS, FROM CONFESSOR'S CHAPEL.

ST. OLAVE'S GRAMMAR SCHOOL.

SHILLINGFORD HILL, BERKSHIRE: STAIRCASE WING. LODGE.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

The Works of Gibbs (*continued*).

(*Continued from page* 195.)

ALLUSION was made in a former paper to Mr. Butterfield's fondness for keeping the roof-line of his nave and chancel at the same level, but distinctly separating the two members by a gable coping and cross, in designing which latter appendage he was perhaps unrivalled. This very striking characteristic of the architect does not present itself to the casual visitor internally, since it was his almost invariable custom to pitch the chancel arch low, whereby at St. Matthias, Stoke Newington,[*] he was enabled to get a lantern above his *chorus cantorum*, and at St. Alban's and All Saints a field for the display of decoration in natural polychromy; while at St. Augustine's, Queen's Gate, the apex of whose chancel arch rises but little above that of the nave arcade, he introduced a piece of work highly interesting on account of its novel treatment.

St. Alban's, Holborn. Nave Arcade and South Aisle.

The general idea, suggested perhaps by the arcading above the chancel arch of St. Mary's, Shrewsbury, is that of one large window enclosing two smaller ones, each composed of two delicately traceried, but of course unglazed lights, and separated from one another by a Latin cross, whose arms stand out in relief against the unpierced portion above these sub-fenestrations in lieu of traceried work. Altogether this is an arrangement of great singularity, but only one among the numerous instances of its architect's lofty independence of thought.

In churches like St. Augustine's and St. Alban's, where breadth is the dominant feature, this treatment of the chancel arch serves to impart an air of length and mystery to the building, while in other of Mr. Butterfield's works it is one of those simple factors by which he so ingeniously and at so little cost was enabled to attain impressiveness and dignity.

The long, lofty and narrow St. Clement's, City Road, has no stone chancel arch, the separation between nave and choir being marked by doubling the roof principals, giving them a trefoliated shape, and connecting them by a tie-beam which supports a fleuriated cross. This is likewise a very novel and effective piece of work, though too high up to be ever of much service as a rood.

The student of Mr. Butterfield's various churches will have noticed that it was his custom either to corbel off the piers supporting his chancel arch, or to cause them to assume that character which excludes as little of the view of the chancel from the nave as possible.

The Choir of the Cathedral of the Holy Spirit in Greater Cumbrae, N.B.

This practice and his pertinacious rejection of the transept sufficiently indicate how strongly he felt that the forms of Mediæval art, beautiful as they are, do not always adapt themselves thoroughly to the needs of a service which is essentially one of Common Prayer. His churches, therefore, are common sense English churches, for the worship of the Church of England, and built in a thoroughly English style. They are such churches as an English Mediæval architect might have built had he to consider the needs of our own age and the ritual of our Church.

At the time when most of these fine structures were raised, men were crying out for a new style, and perpetrating eccentricities over which shame would gladly draw the veil. Here was a man of genius who by a few magical touches, and without violating the canons of strict architectural taste, could steer a medium course between a cold and servile copyism on the one hand, and a restless striving after effect, resulting too often in bizarrerie, on the other. The central tower,[*] involving massy piers at the crossing, the deep cruciform plan, and other Mediæval forms, seemed to him to pertain to the worship and institutions of the past rather than of the present. So, time-honoured as such features were, he not unwisely rejected them, adopting others which, without in any way violating ancient precedent or interfering with the dim religious light of impressiveness and solemnity, served to bring clergy and people into closer companionship within the sacred walls.

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[*] This is one of the few churches built by Mr. Butterfield in which the roofs of nave and chancel are on different levels. But even here the arch must not be taken as giving the limit of the sanctuary's height, the apex of its vault, barrel-shaped and of red and yellow brick in alternate bands with stone ribs, being considerably above that of the eastern arch of the tower, which in this instance, it will be remembered, forms the chancel on the ground plan.

From the chancel arch we are led by a natural transition to make a few remarks on the chancel screen, a feature whose design in its developed form can never be said to have been Mr. Butterfield's forte, and until late in his career was one which he was very loth to erect in churches of his own designing. Some idea of his antipathy to the chancel screen may be gathered from his reply to a complaint made that he had not provided for one in the abbey church of Dorchester-on-Thames, whose restoration, inaugurated at the outset of its career by the Oxford Architectural Society and entrusted to Mr. Butterfield's care during the early fifties, was eventually completed under Sir G. G. Scott :—"My strong feeling against high and close screens must, I think, be well known; I have for many years both by advice and in my own practice, discouraged the general use of choir screens." These objections it is to be presumed were only urged against screens in churches of parochial character, for in two built by Mr. Butterfield for the Scottish Episcopal Church shortly before these words were written—St. Ninian's, Perth,[†] and that of the Holy Spirit [‡] in the island of Greater Cumbrae, the former cathedral, the latter collegiate—solid screens were erected, one of which is of so remarkable a character that the temptation to give an illustration of it was too strong to be resisted.

Until twenty-five years ago, when the oak chancel screen was erected as a memorial to its co-founder, Robert Brett, St. Matthias, Stoke Newington, was destitute not only of this appendage but of parcloses. It did not even possess that low stone wall which, with its metal gates, is so familiar an object in All Saints, Margaret Street, and whose floral decoration from the tasteful hands of the Sisterhood attached to that church is always quite a feature at the great festivals. The writer remembers being much struck one Whitsuntide by the decoration of this septum at All Saints with a coronal of peonies, arranged in layers which, gradating in tint, looked most effective. The iron grilles and gates filling in the side arches of the chancel in this church are remarkably fine, as are those in the same position at St. Alban's, Holborn. Here the low stone septum at the entrance to the chancel has an iron cresting presenting that strap-like treatment of foliation upon which Mr. Eastlake in his "History of the Gothic Revival" bestows so much praise,[§] and which is undoubtedly far superior to the architect's manipulation of the same material in the tall screen put up by him—much against his inclination, one would fancy—a few years ago in St. Augustine's, Queen's Gate. Here the whole is needlessly heavy in execution, while the details are eccentrically ugly; nor can the wooden screen with which he equipped St. John's, Hammersmith, within recent years be pronounced a success, seeming as it does to be based too much on stone forms and constructions.

The sanctuaries of these churches have several striking characteristics in common, one being the absence not only of the sculptured human form, but of leafage; another, their due provision with the requisite instrumenta for the dignified performance of the Church's highest office; a third, their rectangular termination. It was in his pertinacious rejection of the apse that Mr. Butterfield stood alone among such contemporaries as Scott, Street and Pearson, his antipathy to this feature being shown by the following passage in a letter written some years ago to the author of these papers :—"You do me justice in saying that I have remained firmly 'English. I have great belief in tradition and in the good that comes of following it, and keeping private judgment under control. I left it to others to build apses, though indeed, as I have often told them, they do *not* build them. For they give us a square end, minus the angles, *i.e.* a square end spoilt, while an old apse was a square end plus the apse—a very different thing"

Although it is impossible to be entirely at one with the late venerable architect in this matter, the fact that the polygonal termination was sadly travestied by less accomplished practitioners during the earlier portion of the "inventive" phase of the Revival cannot be overlooked, employing it as they did in churches built not only in the outskirts of large towns, where to a certain extent its use was less reprehensible, but in those of country places, where a rectangular termination would not only have answered the same end, but have had the merit of legitimacy and insularity.

But used on a grandiose scale—as, for instance, by Sir Gilbert Scott in such churches built on French and German motifs as St. Mary, Stoke Newington, St. Andrew, Westminster, and St. Paul, Dundee; by Mr. Street in the somewhat Italianising St. Mary Magdalene, Paddington; and by Mr. Goldie in his Roman Catholic churches at York and Kensington, where its introduction was dictated by considerations of site—the polygonal apse has been made to assume an appearance of combined dignity and grace, though in certain instances it has lost much from not having a bona-fide groin. The last-named two being town churches, occupying ground necessarily limited in extent, their polygonal apsidal termination undoubtedly alleviates in a considerable degree that truncated appearance which the square end presents when used in conjunction with great height and inconsiderable length.

The illustrations given with former instalments of these papers of Keble College chapel and St. Augustine's, South Kensington—where the sanctuary appointments are of more than ordinary magnificence—show that treatment by Mr. Butterfield of his eastern wall, in which, by keeping his window of comparatively small dimensions, he was able to secure that triple division of height which latterly became one of the leading features of his works. At All Saints, Margaret Street, and St. Alban's, Holborn, the contiguity of houses precluded fenestrating the eastern walls of those two churches—a deficiency more than amply atoned for by those remarkable, but in conception and execution totally different, series of paintings which, although they have passed out of the domains of criticism, are invested with so great an historical interest as to render a brief account at least inevitable.

The whole of the east end at All Saints, Margaret Street, above the line of the reredos, now concealed—not unhappily, the writer opines, with tapestry harmonising with the surrounding architecture—is set, as it were, in an architectural framework of alabaster arcading in two ranges, and filled with frescoes by Wm. Dyce, R.A. (died 1864), to whom the task of suiting his paintings to their position was one of no uncommon difficulty.[*] Even at this lapse of time these works—executed in what, for want of a better expression, may be termed the German heilige style—are of their kind unsurpassed in nobleness and purity, and will ever invest the church which they adorn with a special and unique interest. The lower range of panels contains three Apostles on either side a group of the Nativity—a design of special sweetness into which the artist threw a novelty and distinctness considering how the subject had been forestalled by some of his greatest predecessors. The remaining six Apostles placed in the upper tier of arcades flank the Crucifixion, another group showing not only great purity, but just the right limit of archaism, while above the springing of the vault, and separated from the arcades by a massive string-course, is Our Lord enthroned amid the heavenly hierarchy, very grandly treated, though inadequacy of light precludes it from being studied to advantage. In the dignity and beauty of the adornment of its most sacred part few churches built since the Revival can approach that of All Saints, Margaret Street, entrusted, as it was, to the hand of Dyce. The decoration of the groined roof and of the sanctuary walls is exquisitely graceful and harmonious, the idea having in all probability been furnished by a North Italian example, such, for instance, as Sta Anastasia at Verona, while the contrast it presents to the architect's own mural decorations, whose abrupt encroachment upon those of Dyce is not a little curious, must strike the most casual observer. Styleman Le Strange's work at the east end of St. Alban's, Holborn, differs from that of Dyce at All Saints as much in design as it does in mode of execution. Here Le Strange had to deal with an immense expanse of unfenestrated wall divided above the line of the reredos into twelve simple panels, separated from one another by strips of alabaster. Within ten of these compartments he placed as many subjects—not pictures, but wall decorations in subordination to the architecture—illustrating the great events in Our Lord's life, and selected from the Litany. Commencing immediately above the altar with "By the Mystery of Thy Holy Incarnation," as represented by the Annunciation,* the remaining nine, in three rows reaching up to the very point of the roof, conclude with "By the Coming of the Holy Ghost," so arranged that the four great mysteries of our faith, the Incarnation, the Nativity, the Crucifixion and the Ascension occupy the central position in each tier.

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[*] This feature, although adopted at St. Matthias, Stoke Newington, was so skilfully contrived as to completely do away with the cruciform idea so generally attendant upon the use of the central steeple. Here its transverse arches spring from shafts with vigorously if not very gracefully flowered capitals corbelled off against flat responds, while the arches opening into the aisles (which are those of the nave prolonged against the sides of the tower, as at Etchingham, Fairford Magor in Monmouthshire, and some other old examples) die off into the wall on either side.

[†] A portion of this cathedral—the seat of the Bishop of St. Andrew's—was finished in 1851. It consisted of the choir, transepts and one bay of the nave. Ten years ago the nave was completed, and terminated westward in a tower and western transepts, whereas the original design, some idea of which may be derived from engravings in the *Ecclesiologist* for October, 1850, and the *Illustrated London News* for September 2, 1854, shows a pair of western towers and spires of the ordinary broach form.

[‡] Now containing the cathedra of the Bishop of Argyle and the Isles.

[§] Perhaps this iron-work at St. Alban's may seem, to a severe criticism, to possess a certain heaviness and solidity somewhat destructive to the idea of metal-work, which is ductility.

[*] These frescoes of Dyce, the original design for which may be seen on one of the staircases leading to the picture galleries of the South Kensington Museum, have at various times passed beneath the hands of other artists for restoration. Mr. Armitage—whose fame in the same department of ecclesiastical art may in some degree be said to rest upon his works in St. John's Roman Catholic church at Islington—was one of those called in to preserve Dyce's pictures from the injuries which the combined influences of smoke and climate were inflicting upon them.

Thus nearly the whole of the east wall is covered by these paintings, which for a few years after the consecration of the church in 1863 so combined with the inlaid stones, tile and metal below and alabaster framing as to form one vast reredos The illustration of St. Alban's given in the number of this series of papers for March 2 gives an admirable idea of the end of the church as it left the architect's hands.

Le Strange's cartoons for this great retabulum at St. Alban's, to devote himself to which he had laid aside his work at Ely Cathedral,† were nearly complete at the time of his death. They were then entrusted to Mr. Preedy, to whom are due not only two of the subjects, those of the Ascension and the Pentecost, but the general idea of the whole scheme.

Their execution was pressed on by him in the cold short days and the fogs of the winter of 1862-63, in order that the consecration of the church might not be delayed, and carried out as they were of necessity almost by artificial light, the effect of these paintings on "water glass"—a process in which those concerned had had little or no experience—is equally good at all times.

Such is a brief outline of five churches which have attracted more attention and which have perhaps been provocative of more controversy than any built since the Revival of Pointed art.

The author of these remarkable edifices will undoubtedly be credited by future generations with the possession of an extraordinarily powerful and inventive mind. "His work," observed an eminent architectural critic thirty years ago, "gives one the idea of a man who has designed it not so much to please his clients as to please himself. In estimating the value of his skill posterity may find something to smile at as eccentric, something to deplore as ill-judged, and much that will astonish as daring, but they will find nothing to despise as commonplace or mean."

LINCOLN'S INN.*

IF one may be allowed to paraphrase or pervert an old and well-known proverb, I should like to ask, "Whom shall we follow when guides disagree?"

One of the three guides whom I have consulted opens his discourse by the statement that Lincoln's Inn is bounded on the north by houses facing Holborn, east by Chancery Lane, south by Carey Street, and west by Serle Street and Lincoln's Inn Fields.

This statement is at once so concise and correct that one may let it stand and turn to hear what the second guide has to say. He thinks that before entering upon an inquiry into the history of Lincoln's Inn, the most ancient of the Inns of Court, it may not be improper to advert briefly to the origin and antiquity of the laws of England, since it was for the accommodation of the students and professors of those laws that such inns and societies were established.

One has hopes that our guide is standing upon firm ground, but these hopes are dashed when one hears him quote Sir Matthew Hale to the effect "that the source of these laws is as undiscoverable as that of the Nile." Lord Bacon also observes that "our laws are as mixed as our language, and as our language is so much the richer, the laws are the more complete."

It would be tedious to follow all this author's incursion into the history of laws, but he mentions one interesting fact worthy of notice. This is that the code of laws framed by Ethelbert, king of Kent, A.D. 561-606, is the oldest European code extant in any modern or "barbarous" language—that is, in any other language than Latin.

Mr. Spilsbury (formerly librarian at Lincoln's Inn), the author whom I am quoting, now turns his attention to the origin of the Inns of Court, and here again the precise date of their foundation cannot be stated, because they have not been incorporated by charter, but are, according to the dictum of Lord Mansfield, "voluntary societies which for ages have submitted to government analogous to that of other seminaries of learning."

Although details are wanting, there is no doubt that the inns of law owed their existence and their situation in London to the changes wrought in the administration of the law by that "great bulwark of our liberties," Magna Charta.

In the thirteenth century, says Mr. Spilsbury, when the clergy, who were forbidden by episcopal canons to practise as advocates in the temporal courts, had withdrawn to the Universities of Oxford and Cambridge, where they could pursue their study of the canon and civil law, the professors of the municipal or common law, to which the laity adhered, were brought together in one place in consequence of a provision of Magna Charta, which established the Court of Common Pleas.

The Supreme Court of Justice having been always held in the aula regis or hall of the king's palace, was bound to attend the person of the sovereign in whatever portion of his dominions he might happen to be resident, and it was then ordained by an article of the great Charter that common pleas should no longer follow the king's court, but be held in some certain place. A separate court was thus established and judges appointed for the determination of all civil causes, and this court being fixed in Westminster Hall, the professors of the common law formed themselves into societies and established themselves in convenient places between Westminster and the City of London.

There are three ranks or degrees among the members of the Inns of Court, and these are benchers, barristers and students. We have seen how Lord Mansfield compared the inns to the Oxford and Cambridge colleges, and these ranks remind us of the corresponding division of collegiate members into fellows, graduates and undergraduates. The architectural arrangements of the sets of chambers, the practice of dining in common in the general hall, the possession of a common library and the provision of readings and lectures are all similar to those of colleges. At one time, too, the students of the inns began their day with attendance at prayers in the chapel of their inn under very strict regulations.

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* It is much to be regretted that the immense triptych put up a few years ago in this church from the designs of Mr. G. F. Bodley should have completely concealed this picture—perhaps the happiest of the series, and into which the artist threw a beauty of conception and a depth of religious expression as successful in its result as it was difficult to produce. To the eye of the writer this triptych—a noble work *per se*—decreases the length of the church. What St. Alban's now requires to impart that air of mystery so desirable in a Pointed church is a tall but very light iron screen of a type similar to that which Mr. Bodley erected in his church of St. Salvador at Dundee, so interesting as being one of the earliest works in which that architect returned to strictly English forms of Pointed after his essays in the Early French style at St. Michael's, Brighton, and St. Martin, Scarborough.

† The painting of the nave roof with the long symbolical tree of Christian story, in rivalry of but on a more gigantic scale than that at St. Michael's, Hildesheim, and whose accomplishment neither its promoter—that good Dean to whom not only Ely Cathedral alone but ecclesiology generally owes so much—nor its artist were destined to witness Dean Peacock died in 1858, his funeral on November 12 of that year passing under the lofty scaffolds raised for this great and historically interesting undertaking. Styleman Le Strange, whose designs for this work were the fruit of much learned study and religious enthusiasm it is said that he had once read through carefully the whole Bible to make notes for art purposes—died July 27, 1862, the completion of the ceiling being entrusted to his fellow-artist and admirer, the late T. Gambier Parry.

* A paper read by Mr. J. Downes at Anderton's Hotel on March 24, before a meeting of the Upper Norwood Athenæum.

On May 19, 1585, "At a Council" (of Lincoln's Inn) "it is ordered that every gentleman being fellow of this House, that shall in the Term Time be absent from Morning Prayer in the Chapel of this House, do lose and forfeit to the use of this House for every time to be absent IVd., except he can show reasonable excuse to the contrary; and this to be presented every week by one of the butlers." And prayers were then said at six in the morning, but on October 6, 1633, the Council finding the said prayers "by reason of the cold winter mornings to be less frequented by the gentlemen of this House, and specially by those of the older sort, ordered that during the two Winter Terms prayers should begin at seven o'clock in the morning."

The Benchers of an inn, or to give them their formal title, the Masters of the Bench, rule and govern the house, and out of their number one is annually elected to fill the office of treasurer, which is the title of the head of Lincoln's Inn.

For the present year of grace, 1900, Sir John Compton Lawrance is Treasurer of Lincoln's Inn, and amongst the Benchers are the following well-known gentlemen:—H.R.H. the Duke of York, Lord Grimthorpe, Lord Hobhouse, Sir Edward Fry, Lord Russell of Killowen, L.C.J., Lord Davey, Justice Lawrance, Justice Mathew, Justice Kekewich, Justice Rigby, Justice Romer, Sir Richard Webster, Sir Edward Clarke, Right Hon. Leonard Courtney, Right Hon. John Morley, Right Hon. Herbert Asquith, and sixty-four others, making eighty in all.

The Masters of the Bench are assisted in their duties of government by the following officers, whose titles sufficiently indicate the nature of their duties:—Treasurer, Sir John Compton Lawrance; master of the library, Sir Jas. Chas. Mathew; preacher, Rev. H. Rashdall; chaplain, Rev. C. J. Ball, M.A.; organist, Chas. Steggall, Mus. Doc.; steward, Mr. A. Weatherley Marriott; librarian, Mr. A. F. Etheridge. The course of legal education at the Inns of Court consisted in ancient times, according to Dugdale, Stow and other antiquaries, of readings, mootings and boltings. In early times when the learned writings existed only in MS., they were necessarily guarded with great care, and were not easily accessible to the student. The readings were, therefore, delivered in the hall by men of high standing and great experience in the profession who were able to explain any obscure passage. The students, no doubt, either took notes or committed to memory the facts of trials wherein important principles were laid down or decisive precedents established.

Mootings were questions on doubtful points of law argued before the Reader between certain of the Benchers and Barristers in the Hall.

Boltings, another exercise of the students, is said by Spilsbury to be the private arguing of cases, but was probably not so much an arguing of points of law as a sifting of evidence by cross-examination or otherwise. To bolt and bolting are well-known terms in the technology of flour millers, and describe the practice of sifting the grist as it comes from the millstones and separating it into flour and bran.

As says Shakespeare, Coriolanus iii. 1:—

> He is ill-schooled
> In bolted language; meal and bran together
> He throws without distinction.

When the Reader, either alone or with the consent of the Benchers, was satisfied that a student had in the words of Stow "grown ripe in the knowledge of the laws, and was approved withal to be of honest conversation," he was selected and called to the Bar.

At an early period the readings were concluded by a general feast, and this grew in importance until it became the duty of the Reader rather to entertain the nobility and gentry than to give instruction in law, and on this account they were discontinued for about a hundred years. They were then revived, at Lincoln's Inn, by Mr. Michael Nolan, in 1796, and have continued chiefly in the form of lectures—merely another word for the same thing—until the present day. It is not necessary to specify all the changes that have since taken place, but I may mention that in 1854 a Royal Commission reported that for the purpose of examinations and conferring degrees the four Inns of Court should be united in one University of Law. These recommendations were not acted upon, but previously, in 1851, the four inns had agreed upon the appointment of a Council of Legal Education, and in 1872 this council issued a further scheme, which, briefly summed up, provides that no person shall be called to the Bar unless he has passed a satisfactory examination in (1) Roman civil law, (2) the law of real and personal property, (3) common law and equity.

At the present time, as you all know, there is a movement on foot for the extension and development in various directions of the University of London, one of the changes proposed being the establishment of a Faculty of Law. It was stated in the *Times* a few weeks ago that the authorities of the inns had declined to agree to this proposal, which would mean handing over their powers of examination and granting of degrees to the new University.

It would not be interesting on this occasion to follow Mr. Spilsbury into a rather technical disquisition upon the order of precedence of Crown officers, judges, Queen's counsel, &c. except his note that apart from this no dignity nor title confers any rank at the Bar. A privy councillor, a peer's son, a baronet, a Speaker of the House of Commons and a knight merely rank at the Bar according to their legal precedence.

Having thus far described to the best of my ability, and I sincerely trust without any gross inaccuracy, the aims and objects, the origin and constitution of Inns of Court in general, it now remains for us to examine in greater detail into the history of Lincoln's Inn in particular.

To ascertain how the Benchers first acquired their property, to search into their title as it were, it will be necessary in the first place to make a brief topographical survey of the locality. The first clear reference to the domain outside the City walls on the westward side is said by the Rev. W. J. Loftie, M.A., F.S.A., to be a deed dated 1115, in which it is described as "Ultra Fletam," and in which are recorded the names of four tenants of the Dean and Chapter of St. Paul's. Three years later a great event happened in the region "Ultra Fletam," and this was the settlement of the Knights Templars in Holborn. This was on the south side of Holborn, between Staple Inn and Chancery Lane, and about 150 years ago remains of their round church were discovered in Southampton buildings. In 1185 the Templars had already outgrown these buildings and became wealthy enough to purchase the piece of land between Fleet Street and the river, where they remained till the dissolution of their order.

One curious fact remains to connect them with the present day. They rented a field on the other side of the Strand, westward from Chancery Lane, which was called Fickett's field, and afterwards Little Lincoln's Inn Field, on the north-east corner of which a considerable portion of New Square now stands. This field was used for tilting, and hard by was a forge, where the armour of the Templars was fitted and rivetted, and their horses shod. Great and Little Horseshoe Courts, which were two of the narrow alleys and yards demolished to clear the site for the new Law Courts, no doubt commemorated this forge, and although the building was destroyed in Wat Tyler's rebellion the ghost of a forge is still rented from the Crown by the City under what is known to lawyers as a jocular tenure. Year by year, when the sheriffs of the City went to the Court of Exchequer at Westminster, they presented "six horseshoes and sixty-one nails, good number," for the rent of the forge. Since 1859 this service is performed by the City solicitor, who annually attends at the Remembrancer's Office for this purpose on September 30.

But to return to the history of "Ultra Fletam." In 1222 or 1223 a great portion of it was taken into the City by the creation of Farringdon Without ward, the west boundary of which, according to Stow, ran from Holborn Bars to Temple Bar, and thence to the river Thames. Lincoln's Inn is, therefore, just outside this line, but the extension of the government of the City rendered the adjacent territory more secure and made further settlements possible.

About this time, or a year earlier, 1221, to be exact, occurred another event which concerns us more closely. This was the advent into England of the Dominicans, or Black Friars. Thirteen members of this order, under Prior Gilbert de Fraxineto, settled "without the walls of the City by Oldbourne." The site of their dwelling-place was between Chancery Lane and Great Turnstile on the south side of High Holborn, but whether it covered the whole of that frontage is not stated. In 1243 they numbered 80 brothers, and in 1250, when they held a grand convocation, it was attended by no less than 500 churchmen. Henry III., who, on the first day of their meeting, attended their chapter, sat with them at their table to a dinner he himself had provided. In 1255, when the Jews were being virulently persecuted for the supposed sacrifice of a Christian child at Lincoln—"Hugh of Lincoln"—the Black Friars incurred considerable opprobrium in consequence of their endeavours to protect the London Jews. But it appears they always took a great interest in and made strenuous endeavours to effect the conversion of the Jews, though their zeal on one occasion proved unlucky. This was thirty years later, in 1275, when Robert de Reddinge, one of their most powerful preachers, in his efforts to convert the Jews was converted by them, was circumcised, and married a Jewess.

The Holborn site having in 1276 become too small for their conventual establishment, the Black Friars in that year migrated the locality north of Castle Baynard and east of the Fleet, l known as Blackfriars. Hubert de Burgh gave them the ver called Mount Fitchett with adjoining houses which stood re, and which had been erected by Gilbert de Mountfitchett, of the Conqueror's tried warriors.

The monastic site in Holborn was sold to Henry de Lacy, rl of Lincoln, for 550 marks, which he paid by certain instal- nts, spread over a year and a half. Whether he built him- f an entirely new mansion, or altered and added to, or uilt some of the old dwellings of the monks, is not quite tain, but it is certain that he had a very fine garden there, rt at least of which must have been the garden of the minicans, for at that period no religious house would be nsidered complete without a garden.

In a paper read by Mr. T. Hudson Turner before the chæological Institute in 1848, on "The State of Horticulture England in Early Times," are the following particulars of Earl of Lincoln's garden :—

"There is preserved in the office of the Duchy of Lancaster account rendered by the bailiff of Henri de Laci, Earl of ncoln, of the profits arising from, and the expenditure upon, earl's garden in Holborn, in the suburbs of London, in the enty-fourth year of Edward I. (1296). We learn from this rious document that apples, pears, large nuts and cherries re produced in sufficient quantities not only to supply the rl's table, but also to yield a profit by their sale. The sum of 2*s.* 2*d.*, equal to about 135*l.* of modern currency, was ceived in one year from the sale of these fruits alone. The getables cultivated in this garden were beans, onions, garlic, ks and some others, which are not specifically named. emp was also grown there, and some description of plant ich produced verjuice, possibly sorrel. Cuttings of the vine re sold, from which it may be inferred that the earl's trees re held in some estimation.

"The stock purchased for the garden comprised cuttings of following varieties of pear-trees, viz. two of the St. Régle, o of the Martin, five of the caillon, and three of the Pessecelle. It is stated that these cuttings were for planting. The ly flowers named are roses, of which a quantity was sold, oducing 3*s.* 2*d.* It appears there was a pond or vivary in the rden, as the bailiff expended 8*s.* in the purchase of small h. frogs and eels to feed the pikes in it."

This account further shows that the garden was enclosed a paling and fosse; that it was managed by a head gardener, o had an annual fee of 52*s.* 2*d*, together with a robe or ery; his assistants seem to have been numerous—they were gaged in dressing the vines and manuring the ground, their llective wages for the year amounting to 5*l.*

There is little recorded about this Earl of Lincoln, and that y be summed up by a quotation from the historian Whalley, o says that "Henry de Lacy, the last and greatest man of his e, was the confidential servant and friend of Edward I., om he seems not a little to have resembled in courage, tivity, prudence and every other quality which can adorn a ldier or a statesman. In 1290 he was appointed first com- ssioner for rectifying the abuses which had crept into the ministration of justice, especially in the Court of Common eas, an office in which he behaved with exemplary fidelity and ictness." This statement, as showing the interest he took legal matters, goes to explain the disposition of his property on his death on February 5, 1311, when, according to dition, he assigned or bequeathed his house and grounds in lborn to professors of the law, who subsequently formed emselves into the Honourable Society of Lincoln's Inn. This nnot be stated with certainty, as the existing records of ncoln's Inn commence with the second year of Henry VI. D. 1423).

The Earl of Lincoln was buried in St. Paul's Cathedral, to ich he had been a great benefactor, and over his remains s erected a monument bearing his figure, cross-legged, clad mail, which perished in the Great Fire of London.

The lawyers, installed in the inn, afterwards acquired a nsiderable part of the adjoining demesne southward of the shop of Chichester, whose memory is perpetuated in the mes of two small courts, named Bishop's Court and ichester Rents. The original owner, John Herlirum, was ainted for treason and his estate forfeited to Henry III., o granted it in 1228 to Ralph Neville, Lord Chancellor and shop of Chichester. This was no doubt the reason why the w street was called Chancellor's Lane—now Chancery Lane. e house passed from bishop to bishop for near 300 years, in 1526 Richard Sampson, then Bishop of Chichester, sold to the brothers William and Eustace Sulliard, who were nchers of the Society and eminent legal practitioners. Sir lward Sulliard, the son and heir of Eustace, conveyed the ole freehold in 1579 to William Kingsworth and the rest of Benchers for 525*l.*

Of these old buildings, Lincoln House and Chichester ouse, as we may call them, not a vestige now remains above ound. There may possibly be traces of vaults and foundans. From Aggas's map, dated 1560, it appears that the houses turned their backs on each other, Lincoln House fronting northward to Holborn, and Chichester House facing south, probably near Carey Street. Between them the space is covered by the two gardens extending from Chancery Lane to Lincoln's Inn Fields, and no house is shown on the map to exist. This map must, however, have been copied from one of earlier date than 1560, as the Tudor Gatehouse in Chancery Lane was built by Sir Thomas Lovell in 1518.

Before that time, says Heckethorn, the entrance to the inn was in Holborn, where Fenwick Buildings now stand, but when the new gate was erected the old one was closed and an inn, the sign of which was the Antelope, erected on its site. This in its turn was pulled down about 1637.

The present gateway and side arches are in the same condition as when first erected, and the oaken gates are those of 1564, but some of the windows have been modernised. Over the gateway in three compartments, facing Chancery Lane, are the arms of Lacy, Earl of Lincoln, Henry VIII., and Sir Thos. Lovell, knight.

The chambers over the central arch were at one time occupied by Sir Matthew Hale and those in the southern tower by Right Hon. Spencer Percival, who was assassinated by Bellingham in 1812. According to Fuller, it was whilst working upon this archway with a trowel in his hand and a book in his pocket that Ben Jonson was overheard quoting Homer in the original Greek by a passing Bencher, who was so struck with the youth's attainments that he gave him an exhibition at Trinity College, Cambridge. Aubrey repeats the statement with a slight variation, but Professor Morley makes no mention of Cambridge. He says that Ben Jonson was of a north country family, son of a gentleman who was ruined by religious persecution in the reign of Mary, who became a preacher in Elizabeth's reign and who died a month before the poet's birth in 1573. Ben Jonson's mother took a bricklayer for her second husband, and the boy was first taught in the parish school of St. Martin's, and then owed to the kindness of Wm. Camden, the antiquary, an admission to Westminster School. He is said to have tried his stepfather's business for a little while before he went to fight against Spain in the Low Countries.

There is this to be said in proof of his having some connection with the inns, that he dedicated the play of "Every Man in his Humour" to the "noblest nurseries of humanity and liberty, the Inns of Court." It would be foreign to the subject of this paper to enlarge upon Ben Jonson's career, but it may be mentioned that, with too many poets, he shared the sad lot of dying in poverty. He was buried in Westminster Abbey, and there was question of a monument, but none was raised. One Jack Young gave a mason eighteen-pence to cut on the stone over the grave, "O rare Ben Jonson."

The old hall of the Society, situated in the first court opposite the entrance from Chancery Lane, is the oldest building now remaining in the inn, having been erected in A.D. 1506. Since it has been superseded by the new hall it has frequently been used as a court, and only three days ago I happened to see a notice that Mr. Justice Bucknill, having been crowded out of the New Law Courts, would sit here during next week.

In this hall were held the revels of olden times, when the "King of Cocknies," the local term for the lord of misrule, held his court, and Charles II. paid several visits to these revels. Both Pepys and Evelyn describe the first royal visit in January 1661-62. Probably it took place on New Year's Eve.

The chapel originally belonging to the inn is supposed to have been built by Wm. Rede, Bishop of Chichester, from 1369 to 1385, but it having become ruinous, Inigo Jones was entrusted with the erection of a new one on a site adjoining. The new chapel, which was consecrated on Ascension Day, 1623, when Dr. Donne preached the consecration sermon, is in the Perpendicular style of architecture. Many distinguished divines have held the office of preacher or chaplain of Lincoln's Inn since Dr. Donne. Amongst their number one meets the well-known names of Archbishop Usher, 1647; Dr. Tillotson, Archbishop of Canterbury, 1663; Dr. Herring, also Archbishop of York and Canterbury, 1726; Dr. Warburton, Bishop of Gloucester; Dr. Chas. Lloyd, Bishop of Oxford; Reginald Heber, Bishop of Calcutta; Dr. Thomson, Archbishop of York. The Rev. Fred. Denison Maurice was also lecturer here.

The new hall and library are buildings of quite a modern date, the first stone having been laid on April 20, 1843, and it is unnecessary to take up your time in describing minutely what we have so recently seen. Mr Spilsbury gives a comparison of the hall with that of other halls, and I will give three extracts which will, it is thought, be interesting to you.

The dimensions of the halls of Lincoln's Inn, Eltham Palace and Christ's Hospital are as follows :—

	Length. Feet.	Width. Feet.	Height. Feet.
Lincoln's Inn . . .	120	45	62
Eltham Palace . . .	101	36	54
Christ's Hospital . .	187	51	47

Many eminent men have been connected with Lincoln's

Inn, but as they are mostly lawyers I will not attempt to characterise them lest I incur condemnation under the old proverb,

> Laymen rush in where lawyers fear to tread.

Still, we may cull one or two names from the list beginning with Sir Thomas More, followed by Lord Keeper Egerton, Dr. Donne, Wm Prynne, the Puritan, whose diatribe against plays, balls, &c, "Histrio-Mastix, the Player's Scourge or Actor's Tragedie," brought about several unpleasant consequences, such as fines, imprisonments, pillories, expulsion, and, not least, the loss of two ears.

To resume, Sir Matthew Hale, Sir John Denham, the poet, Thos Sutton, founder of the Charterhouse, Geo. Wither, another poet, many law lords of this century and two great statesmen, Wm. Pitt and Geo. Canning, are amongst the list of members.

To end this "tedious brief history" I will borrow the words with which the late Mr. Spilsbury closes his very excellent little book, to which I may say I owe much.

My task is done—a task that may recall
  And touch with life the shadows of the past—
The courts, the chambers, and that ancient hall,
  Where names revered around their lustre cast—
The sacred fane, where preachers holding fast
  The pure calm faith, its champions aye have been—
All rise to view, then shining forth the last,
  Far o'er the rest in towering grandeur seen
Rises the late-reared pile, majestic and serene.

Nor has it been less pleasing, sooth to say,
  Within their oaken shrines in goodly rows
Those varied stores of learning to survey,
  Whence voices seem to burst from their repose,
To tell how laws, how creeds, how faith arose,
  While visioned forms of sages meet our eyes,
Who to the toiling student's ear disclose
  Such words of wisdom as his heart may prize,
To chasten, train and guide the hopes that in him rise.

ENGLISH FURNITURE.*

ON a subject so well worn as that of furniture, it would be difficult, even in a brief paper like the present, to avoid going over ground that has not already been more or less completely surveyed, and I must therefore disclaim at the outset any pretension of setting forth anything that is particularly original or of dealing with the subject of English furniture save from an evolutionary point of view. By way of conclusion to a general survey of the subject, I would first glance therefore on the relations of history to furniture, and second on general principles of design and construction, with some indications of what I venture to consider should be the direction and tendency of our aims in regard to English furniture in the future.

Like all the other industrial arts, the making of furniture had its origin in the ministering to physical and social needs. The more lethargic races of primitive man, influenced by climatic conditions, would be content to sit on the ground, and the invention of woven mats, and afterwards of carpets, as in Asia, would be the natural outcome of such a habit; but the more active races inhabiting colder climates, such as that of Europe, would find that sitting on a stone or block of wood would be more convenient and save time. The weight and difficulty of handling the block no doubt suggested the stool, and the development of the chair from this by adding a support for the back is sufficiently obvious. From the chair was derived the settle, which in time produced the couch and sofa. It is needless, of course, to enlarge on this part of the subject, since the evolution from the simple to the complex is a natural physical law. I would, however, point out that to this day Orientals manage to get along very well with scarcely any furniture properly so called, while their floor coverings have been justly celebrated from a remote antiquity. The Western nations, on the other hand, had brought the art of furniture manufacture to a high state of perfection when it was still the custom to strew the floor with rushes

As the history of ornament is the history of the human race, furniture must have been the subject of decorative treatment in the remotest times, and whether we examine the actual specimens which have come down to us from antiquity, or contemplate their representations in wall-painting, sculpture or pottery, we can satisfy ourselves that the ancients were skilful designers and workmen in this branch of industry. Egypt, which is claimed to be the cradle of civilisation and the arts, had, it is well known, great influence both on Assyrian and on Greek art, and in this connection it is curious to note how unfavourably the work of the sensuous Asiatics compares with the restrained but graceful refinement developed by the Greek though at the same time it lacks the symbolism and severe an perfectly decorative treatment of its prototype. Roman fu niture in the earlier times of the Republic appears to have bee of a rude and simple character, befitting the habits of a militar commonwealth, but during the later Republic, and under th emperors, the luxury and extravagance of every phase of soci life was reflected in the furniture. Cicero, who cannot justly accused of being a corrupt or particularly unostentatio citizen, gave 9,000*l.* for a table made of rare African wood, an a table which had been the property of the conquered king Numidia realised 10,000*l.* at auction. One feature of ancie furniture was the frequent employment of marble, ivory, bron and, in the case of the later Roman period, still more precio materials in its manufacture. Thus we read of tables of lap lazuli, with legs of solid gold. This reckless prodigality had i natural consequence, and Roman furniture in its form an decoration, though extremely rich and magnificent, nev attained to the real beauty of the Greek.

The overthrow of the Western Empire banished the ar from Europe, except that portion under the Greek emperor and in consequence very few examples of decorative furnitu appear in records of the Dark Ages in Western Europe, and is at least probable that the bronze chair of Dagobert, th silver tables of Charlemagne and some other examples illu trated in illuminated manuscripts were the work of craftsme imported from the near East. South of the Alps and th Pyrenees civilisation was not so utterly submerged for ar great length of time by the wave of Gothic conquest. Inte course with the Levant and the remains of the old mode preserved, at any rate, the tradition of better things, but th North-Western nations remained in a state of abject barbaris relieved only by the short but brilliant period of Celtic art Ireland and Northumbria. By slow degrees, as the Goth States improved in their law and order, the arts of life bega again to receive attention, until towards the end of the elevent century the Crusades, which have seldom been give their due in this respect, acted as an enormous stimul to civilisation in general, and to art in particular. For tho among the chivalrous hosts who returned alive to the homes, scattered all over Europe, brought back with the some knowledge of the art of the near East, and the point arch, the grouped column and the carved capital suggested Byzantine and Saracenic architecture. These, modified religious and climatic peculiarities, transformed the hea Norman or Romanesque architecture of the West. In t hands of races who were freemen and warriors, devout a superstitious, but with a strong sense of humour, Christian a thus ran its course for several centuries, and left indelib marks on the art history of the human race.

The baron's castle, built and equipped mainly for defen became the military and political centre of society, but t cathedral, the church and the monastery were emphatically t centres of social and artistic life, and we therefore find th period Christian in its art for both ecclesiastical and domes purposes. For the first time since the days of the Pharao symbolism became the distinguishing feature of ornament, a as the grotesque may be regarded as being to art what wit to literature, the humour of the people found its expression it, as their religious feelings did in their symbolism. The li of the baron, spent in war and the chase, was not conduc either to luxury or beauty in furniture, and simplicity a rudeness were still further the result of the life in common by the lord and his retainers, who for centuries kept custom of dining all together in the hall, the baron and family and immediate friends on the daïs. The rough table "board," as it was then appropriately called, formed of plan laid on trestles, with long forms or benches for seats, of ornamented by carving, which were cleared away after meal, must therefore have nearly completed the list of furnit in the hall. The private apartments, except those appropria to the ladies of the household, were mere sleeping hutch The ladies' rooms of course contained furniture of more p tension in the shape of bedsteads, coffers for linen and wear apparel, smaller tables and seats. These last, however, we still benches or stools, chairs (often to seat two persons) be reserved for the use of the baron and lady as heads of household. Couches and sofas were of much later introd tion. It is curious to notice that even late in the sixtee century the chair was still regarded as the appanage of person of highest consideration, one only being used in h and it has been suggested that this circumstance is the ori of the term we use "to take the chair."

The sacred nature of the monastic buildings gave th immunity from attack; there was consequently greater secu for the property contained therein. The lives of the mo were largely sedentary, which made them appreciate ind comfort; above all, they had leisure to devote themselves peaceful avocations and possessed the monopoly of educat All these causes combined to make the religious houses hav where the arts could take refuge, and in consequence niture and household effects of the monks were generally of uperior order to those of laymen of equal or even of superior ans. The sarcastic allusions in prose and in verse and the ıres in wood levelled against the luxury and ostentation of religious orders during the Middle Ages sufficiently attest fact. The furniture, though often richly carved, always ɔngly made and well proportioned, was still, however, un- npromisingly wooden; there was little or nothing of the nfort derived from what we call upholstery. Cushions until sixteenth century were few and scanty; a log of wood lowed out served for a bolster, and a bed pillow of chaff s thought luxurious. Still the fourteenth and early fifteenth ıturies are justly looked upon as periods of splendour in the ɔlied arts. The furniture of our cathedrals which has come wn to us, such as coffers, episcopal thrones, sedilia, rood- eens and altar tables, was worthy of these fine buildings. e faults of the woodwork in question are a too great luence of the stonemason, a failure to perceive the limita- ns of wood as a material, and a certain cumbrousness which, ɔugh appropriate in furniture intended in those days to be dom moved, renders these pieces unsuitable for reproduc- n for modern requirements.

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* A paper read by Mr. Lasenby Liberty before the Applied Art Section of the Society of Arts.

Whether the decay of the best traditions of Gothic art was e to a natural decline or was hastened by exterior influence a moot point. It is sufficient to note that its decadence ncided with the commencement of the Renaissance.

The republics of Northern Italy, Venice, Florence, and noa especially, by their trade with the Levant had become eedingly rich and powerful by the commencement of the eenth century, and the patronage of learning and the fine s among the upper classes had already become a fashion, nost a mania. The capture of Constantinople by the Turks 1453, and the consequent dispersion of many of the Greek ıabitants, who fled into Italy with manuscripts, medals, gems d statues, may be said to have inaugurated the revival of clas- al learning and taste. The refugees were eagerly welcomed. e men who had been working after the tradition of Cimabue d Giotto at once perceived the superiority of antique art in ılism, and the beauty which appeals to the senses, which me as a revelation. The Classic in architecture was followed course by the Classic in interior fittings, furniture and coration, and in a few years Italy produced works which ve been generally regarded as chefs-d'œuvres of the wood- rker's art.

In France the new movement was delayed for a time partly the effects of the terrible Hundred Years War, and partly the stern and gloomy policy of Louis XI.; but the ex- ditions of Charles VIII. and Louis XII. into Italy brought out the beginnings of the French Renaissance by Italian signers and workmen being invited into France by the king d nobles. It was, however, reserved for Francis I. to mmence that era of ultra-magnificence in architecture and subsidiary arts which, with certain interruptions, has lasted that country to the present day. The French and Italians, th ingenious peoples, endowed with great manual dexterity d invention and fond of novelty, raised the household fur- ure and fittings of the Renaissance to the highest pitch of ıate grandeur. The wood used was principally walnut, which fine grain and easily cut and worked, lent itself with perhaps great facility to the over-elaboration so characteristic of the tin races. Though, again, too stone-like and architectural design, the early furniture work of the period was in many spects excellent, the construction good on generally sound es, pleasing in proportion and outline, and the carving, ɔugh florid, appropriate to its place, and executed with both licacy and dignity, and it is to be noted that French furniture ring the period of the true Renaissance, in spite of occasional travagances, never transgressed against good taste to the tent in which Italian work ran riot. The Flemings, the ıtch and the Germans developed a Renaissance furniture of eir own, which, while possessing the characteristics of good nstruction and directness of purpose in a high degree, never ned at the richness of design, or attained the refinement detail found in the best French and Italian work.

The Renaissance was late in England While Italy under renzo the Magnificent and his son, Leo X., and France der Francis I. had established an era of unexampled ındeur in every kind of art, at once learned and inspired, English were content to graft on the then existing debased thic forms clumsy Classic detail, without appreciation or derstanding. The causes of this are not very difficult to cover. The Wars of the Roses had swept away almost all old nobility, and those who remained were much im- verished. The revenue of the Sovereign was limited by the mmons, and the great middle class was not yet in existence, at least was only just coming into being. The unlimited ources of the absolute monarchs of France and Italy were t available in this country, and art whether in the guise of tures or furniture cannot flourish without patronage. enry VIII., who, however, had a greater ambition to rival the ench king than to foster art in his dominions, Cardinal Wolsey, and some of the new nobility appear to have done their best to encourage the new taste, and there are some pieces of Renaissance furniture of high excellence in our museums and in private collections of the first half of the sixteenth century. Though labelled "English" it is more than doubtful whether these were made in this country If they were they were most probably executed by foreign craftsmen. It is difficult to believe that the same men who made these pieces of furniture worked the heavy semi-Gothic fitments and joinery of the period which still exist *in situ*.

The long reign of Elizabeth saw the rise of a real English Renaissance, which, while retaining signs of Gothic influence, was yet based on Classic models, and withal exhibited traits of a distinctly national character. The growing wealth of the country, which enabled great nobles like the Earl of Leicester to keep up households of princely proportions, and the rise of the opulent merchants of London and Bristol alike gave an impetus to the importation of fine models and skilled workmen, and to home design and manufacture. The very wealthy, probably still by purchase from abroad or by the employment of Italians and Frenchmen, furnished their homes with carved walnut, with ebony and ivory; but the well-to-do middle-class used the native English oak, which in the hands of English workmen took a distinctive character of its own Incapable of the clean cutting and exquisite finish attained in working the finer woods, it yet was far superior for producing broad effects and massive outline. The nature of the material caused restraint in the employment of carving, and the result was seen in the development of a more truly decorative treatment than in other contemporary work. The exuberance of florid ornament, which broke out in this style towards the end of the sixteenth century, in sympathy with the debasement of the Renaissance in France and Italy, did not extend to any great lengths in the characteristic oak furniture of the period.

Beginning with the reign of Henry VIII., this epoch saw a great increase in the number of different articles of furniture manufactured. The custom of dining in hall fell into desuetude in spite of the protests of the Church and of the old school of laymen. At first the daïs was partially curtained off, then screened, and finally became a distinct parlour (or room for conversation) or withdrawing-room. As the number of separate chambers became greater, furniture was made on a smaller scale and in more numerous pieces. In the private apartments chairs took the place of stools and benches; these were not yet stuffed, but loose cushions were much used. Sofas were still unknown. The plate cupboard, as its name implies, was not enclosed, but an arrangement of shelves fixed to the wall and garnished with silver and pewter cups and flagons An ordinary table stood below for drink and side dishes. The two together are the ancestors of the modern sideboard

With the accession of James I. began what I venture to believe is the finest period of our national taste in furniture. The return of Inigo Jones from his visit to Italy, and his appointment as king's architect, marks the commencement of an epoch in England which but for the Civil War and the subsequent austerities of the Puritan régime might have been more truly worthy in art, and perhaps not less renowned than the period of Francis I. in France. James I was a born builder and quite appreciated the talents of his great architect, but Charles I. more especially possessed a refinement of taste and a love of the beautiful almost unique among the prominent personages of his time. His queen, as became a daughter of the Medici, was a munificent patron of art, and the sovereigns who entertained and honoured Rubens and Vandyke, and took part in the masques of Jonson and Carew, must be allowed to have beneficially influenced the art development of this country.

It is not too much to say that the price of our liberties then achieved was the loss for the time being of our place as an artistic people. For more than a hundred years after the Civil War England cannot be said to have possessed a style or even a taste in furniture, in decoration, or indeed in anything else of the nature of art. During the régime of the Commonwealth sculpture and painting were regarded as savouring of idolatry, and as everything pleasing to the eye was considered as sinful in itself, it is not to be wondered at that no encouragement was given by the dominant faction to the production of artistic and beautiful furniture.

This circumstance shows that religion has had a further influence on our national taste apart from supplying ornament with objects for symbolism. A shorn ritual and a gloomy creed have their reflex in the applied arts. Our climate also has exercised a potent influence on the taste shown in household surroundings, and the gilding, marble, carving in high relief and general glitter and brilliancy of the schools of decoration emanating from the South of Europe have been found incompatible with a climate which necessitates a more indoor life, and consequently has produced a land of homes

These circumstances, combined with the freedom of our institutions, which enabled the people to curb the extravagance of their rulers, as I have previously noted, have been answerable for the fact that in every age the English taste has had a tendency to severity and simplicity, even when through political or dynastic alliances it has been most strongly influenced by a more elaborate and ornate style of decoration.

The Restoration brought a general relaxation from the austerity of the Puritan rule, but its effects on the decorative arts was little short of disastrous. The debased Renaissance of the period of Louis XIV. became the fashion at Whitehall and Hampton Court, and some of the furniture still shown at the latter palace proves that, in spite of considerable influence exercised on English fashion by Dutch models during the reign of William III, the French mode continued to hold its sway in England. During the latter part of the reign of Louis XIV. it became more and more debased, until it culminated in the unspeakable Rococo of the Regency and Louis XV.

This time of decadence, however, had its compensations, inasmuch as the age which gave us Christopher Wren and Grinling Gibbons must be allowed to have been a brilliant period in art of a certain type. St. Paul's is not only a masterpiece of proportion and scale, but a mine of wealth to the designer for the study of Classic detail. I may mention, in passing, as a fact fairly well known, that the so-called Queen Anne furniture and fittings of twenty odd years ago was really based on some mantel and other fittings executed during the reign of George I., and never had any claim to be called the revival of a style.

Though, in my opinion, the furniture of the period of Louis XV. is the worst of any recognised style or school of decoration, yet it brought out the powers of a most wonderful group of cabinet-makers and workers in ormolu. To a technical eye, many of these pieces show difficulties overcome by sheer manual dexterity and skill which have never been surpassed, so much so that one is amazed to think how such workmen came by such designs—designs in which every principle of good construction was set at defiance and every canon of artistic truth violated, the outlines consisting wholly of curves without a single straight line to give an appearance of rigidity and strength. False in conception and meretricious in ornament, it was a faithful reflex of an artificial and corrupt age.

But now arose a group of English cabinet-makers who in some degree raised their craft out of the rut in which it had long been content to travel. Bad as the French styles had been, the English had made them even worse in process of copying, for they could not reproduce their exquisite finish. The work of Chippendale and his compeers, though far from perfect, or even of a high degree of merit, was undoubtedly a great advance on what had preceded it. It was the work of first-rate craftsmen, but of indifferent designers. The chimney and console glass frames were direct copies, except as regards general outline, of French work; the tables and cabinets a bizarre mixture of the same style with Chinese and Gothic. The chairs were undoubtedly the best of the works in question, though even here the backs, with their meaningless carved ribbons and shell ornament, detract in many instances from their merit. Still the principles of good design were partly recognised, and they certainly paved the way for further progress. The style of decoration and furniture introduced about this time by the Brothers Adam had immediate and widespread results for good. Whether inspired or not by the fashion in decoration of the same period in France, and known as Louis Seize, or whether there was a mutual obligation, we can note once more that English taste beneficently stripped the French decoration of much of its over-richness of ornament. The "Adams" is the most delicate and refined of all styles founded on the Classic, and never errs on the side of ostentation or vulgarity. Its ultra-delicacy indeed often degenerated into a cold and feeble refinement, which rendered it non-effective for wall and ceiling decoration, but its inspiration of the work of Hepplewhite and Sheraton is what mainly concerns us in a paper on furniture.

As I purpose returning to this part of the subject I will pass on very rapidly to consider the reason why from the time of Sheraton there was such a universal degradation of all the applied arts in England during the first half of the nineteenth century. The great poverty and distress caused by the long Napoleonic war, as also the political unrest which almost resulted in a rebellion, may be mentioned as factors in this, but the principal reason was the enormous development of the machine industry, which brought in its train a rampant utilitarianism. The state of artistic industry in this country was at the lowest point of degradation during these years. As furniture and decoration were no longer objects of beauty, art patrons (apart from collectors) could only gratify their taste by the purchase of pictures. Painting at this period was synonymous with art, and the age of Turner and Constable, of Wilkie and Etty, produced furniture the designs for which, as seen in old catalogues, are veritable nightmares. The dry bones, however, began to be stirred, and Pugin and his coadjutors, by bringing about the Gothic Revival, began what we must hope to be a lasting improvement in the public taste. It is true that what Pugin accomplished was a mere galvanising of the dead Mediævalism which is impossible with modern conditions of life, but the revolt he led against the abominations of the time was invaluable. He cannot be justly called a great architect, but he accomplished what a great architect might have failed to do. The Gothic domestic furniture produced during the period from the rebuilding of the Palace at Westminster to that of the new Law Courts, which I take to be the time covered by the Gothic Revival, though cumbrous, generally over elaborate and expensive, at any rate brought us back to the first principles of construction and directness of design.

(*To be concluded.*)

EXETER CATHEDRAL.

THE height of most cathedrals is equal to the breadth of the nave and side aisles. Spires and towers are usually as high as the nave is long, or, perhaps more accurately, the transept. The cross or transept extended half the length of the whole fabric, and the aisles just half the breadth and height of the nave added together. Like the New Jerusalem in the Revelation, the length and the breadth and the height of Exeter Cathedral are equal. Very unusual, too, is it, if not unique, for the nave and choir to have the same number of bays, and that, too, the mystic, and in cathedrals uncommon, number of seven. And so nearly exactly in the centre is the great middle boss of the transept (bearing, it seems, the figure of the Black Prince) that, if an axis were let down from it, and the whole cathedral turned round upon it, the great east and west windows would as nearly as possible take each other's place, as, of course, the north and south transepts would. Another and chief characteristic is the perfecty unity of style in the interior as it exists, marred only by the introduction of the east window. It is perhaps the only cathedral in England in which we can take up a point of view (viz. at the east end) from which we behold one style prevailing throughout, and that, too, the most perfect style, the Decorated. Salisbury is still more completely of one style, but that is Early English. The supreme and most glorious characteristic, however, of Exeter Cathedral is its architectural harmony, in which respect it is doubtful whether it can be matched in the world. The pillars and the vaulted roof exhibit an immense and almost unexampled multiplication of regular and rhythmical intervals. Each of the thirty marble pillars is subdivided into sixteen minor but still massive flutings, 480 in all, of which half, *i.e.* 240, are visible at one time. But it is in the vaulted roof that the most astonishing effect of this kind is realised. The earlier roofs of Chichester and Hereford are simpler, and later ones, as of King's College Chapel, show what may be done by a rich and mazy pattern. But in the vault of Exeter the rhythmical repetition of parts reaches its acme. Each of the fifteen compartments exhibits twenty-four facets, so to speak, at a certain angle to each other. Bold groining ribs divide these facets from each other, and are themselves so moulded as to present each one fifteen different surfaces, with intervening hollows to the eye. There are therefore nearly 60,000 surfaces in all, half of them visible at once, every one rhythmically placed, and affecting the eye with an agreeable impression of light and shade. It may give a further idea of the elaborate nature of the work to say that these surfaces and mouldings, each being on an average 12 yards in length, would, if drawn out in line, extend more than 4 miles.

GENERAL.

Sir Richard Temple will deliver a lecture to-morrow at the Royal Society of British Artists on "The Himalayas."

The London County Council decided by a small majorit to spend 27,300*l.* on the conservation of No. 17 Fleet Street, a house with some historic pretensions.

M. Jules Valadon has died in Paris at the age o seventy-six. He was a pupil of Drolling and of Cogniet. Hi portraits in the Salon were always sure to receive admiration.

The Death of Mr. W. J. Anderson, in Glasgow, ha deprived the world of an architect of much promise. He i chiefly known by his lectures and writings on architecture, an especially by his "Architecture of the Renaissance in Italy."

An Exhibition of works by living British painters, a the Guildhall Art Gallery, will be opened on Monday by the Lord Mayor. It has been proposed that the exhibition shoul continue open on Sunday afternoons.

A Stained-Glass Window which was executed at th cost of the late Duke of Westminster for the north transe of St. Paul's Cathedral was unveiled on Thursday, with anothe given by Lady Carnarvon which is in the north choir aisle.

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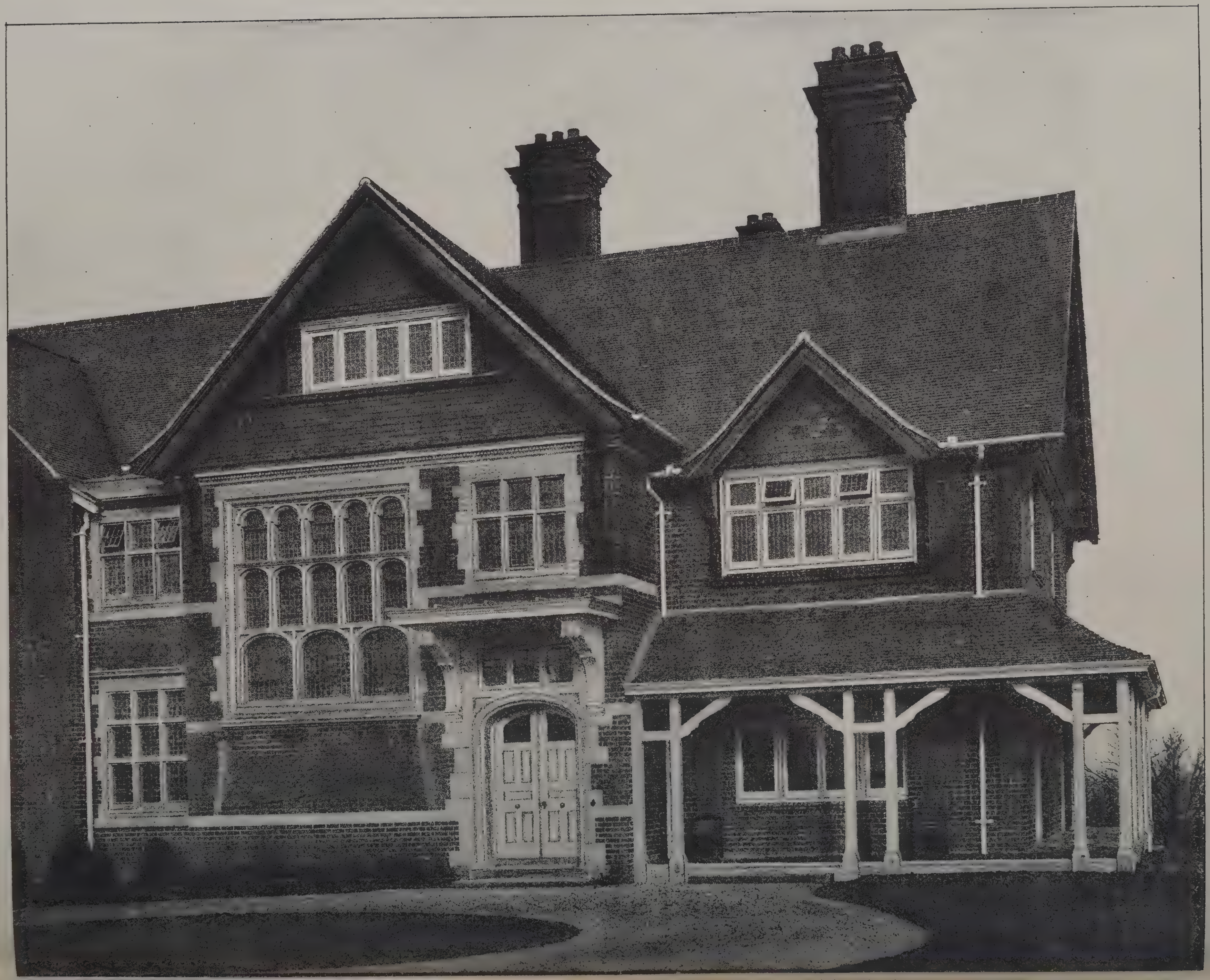
The Architect, Apr 6th 1900.



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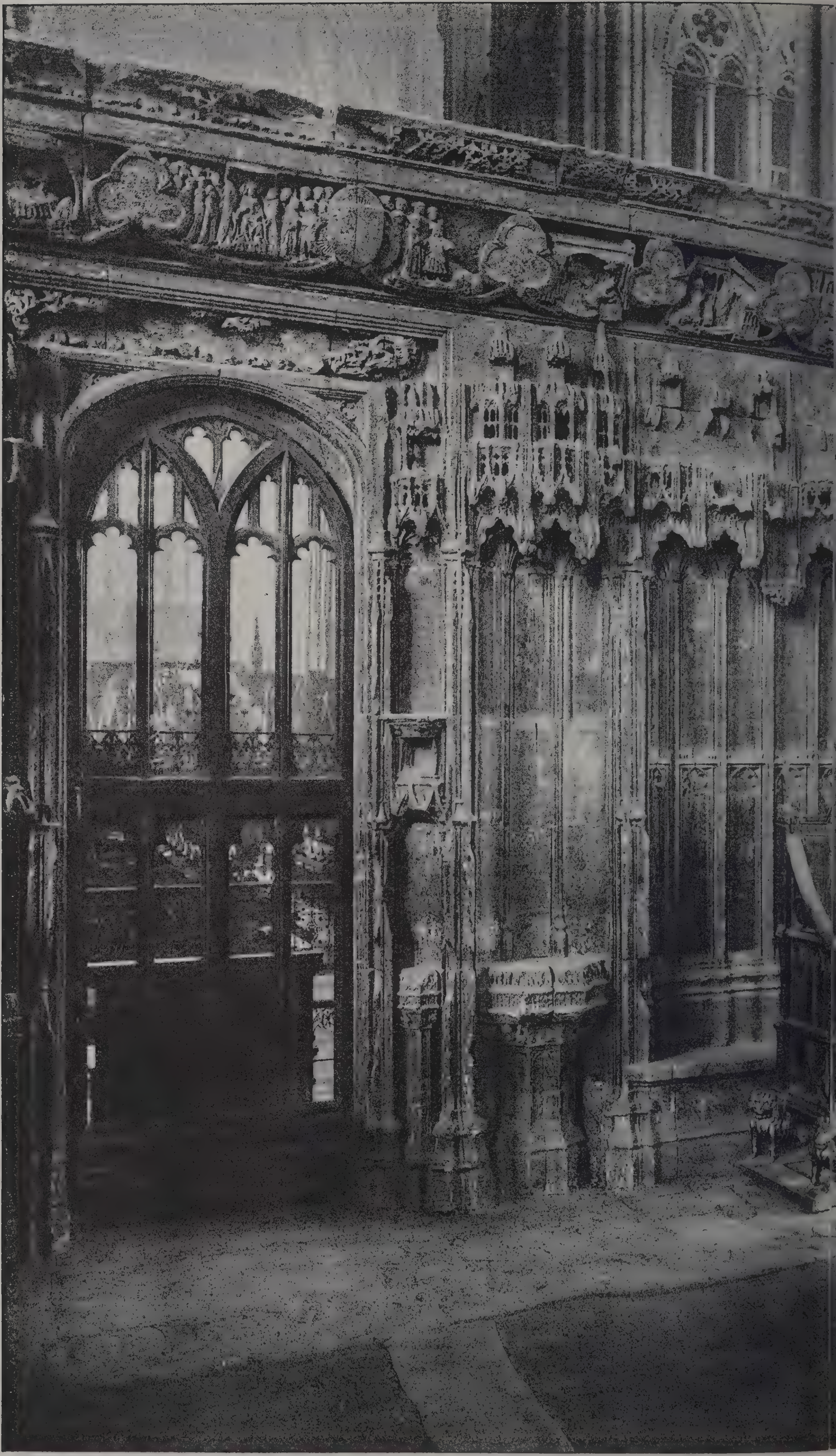

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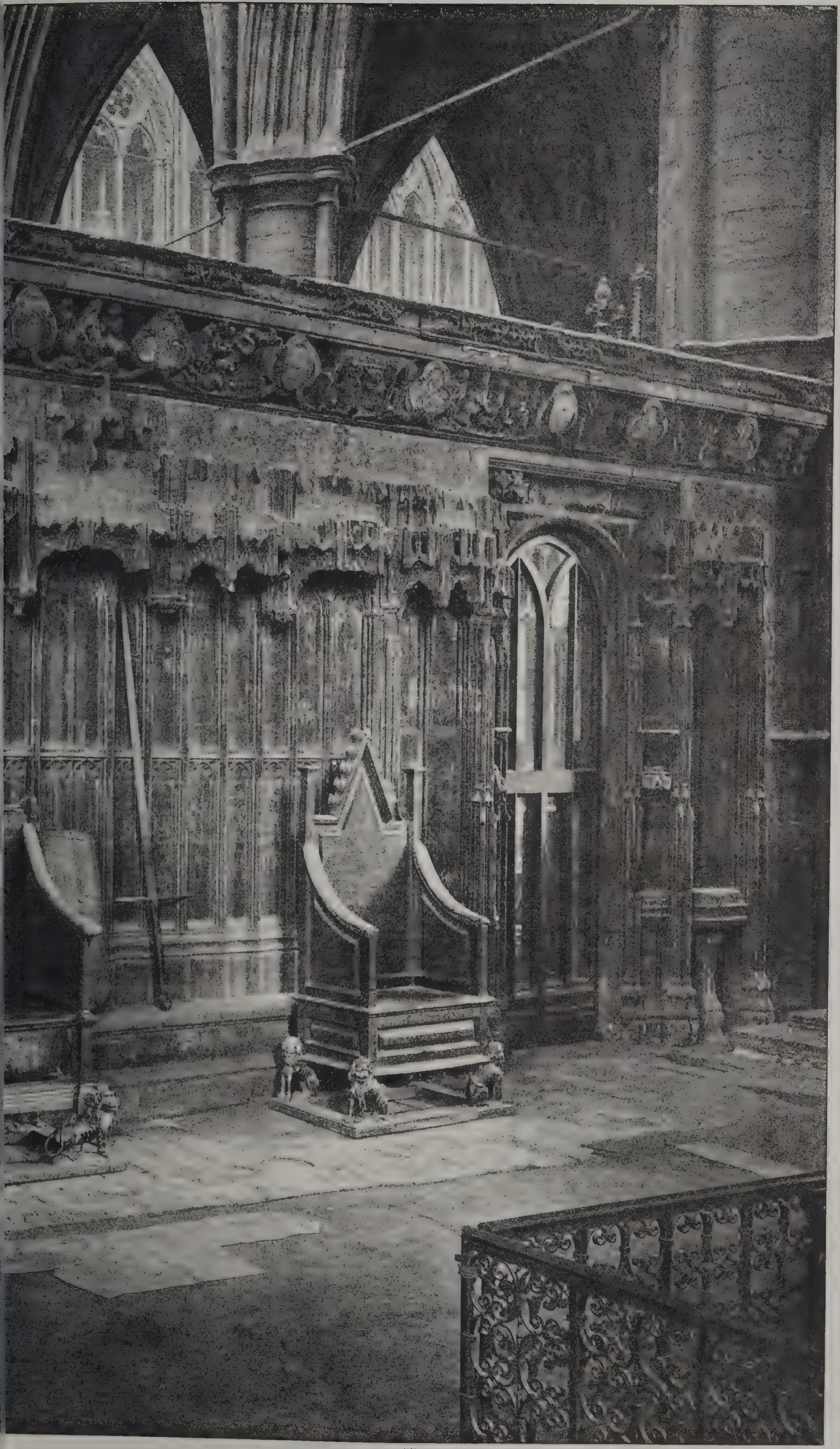

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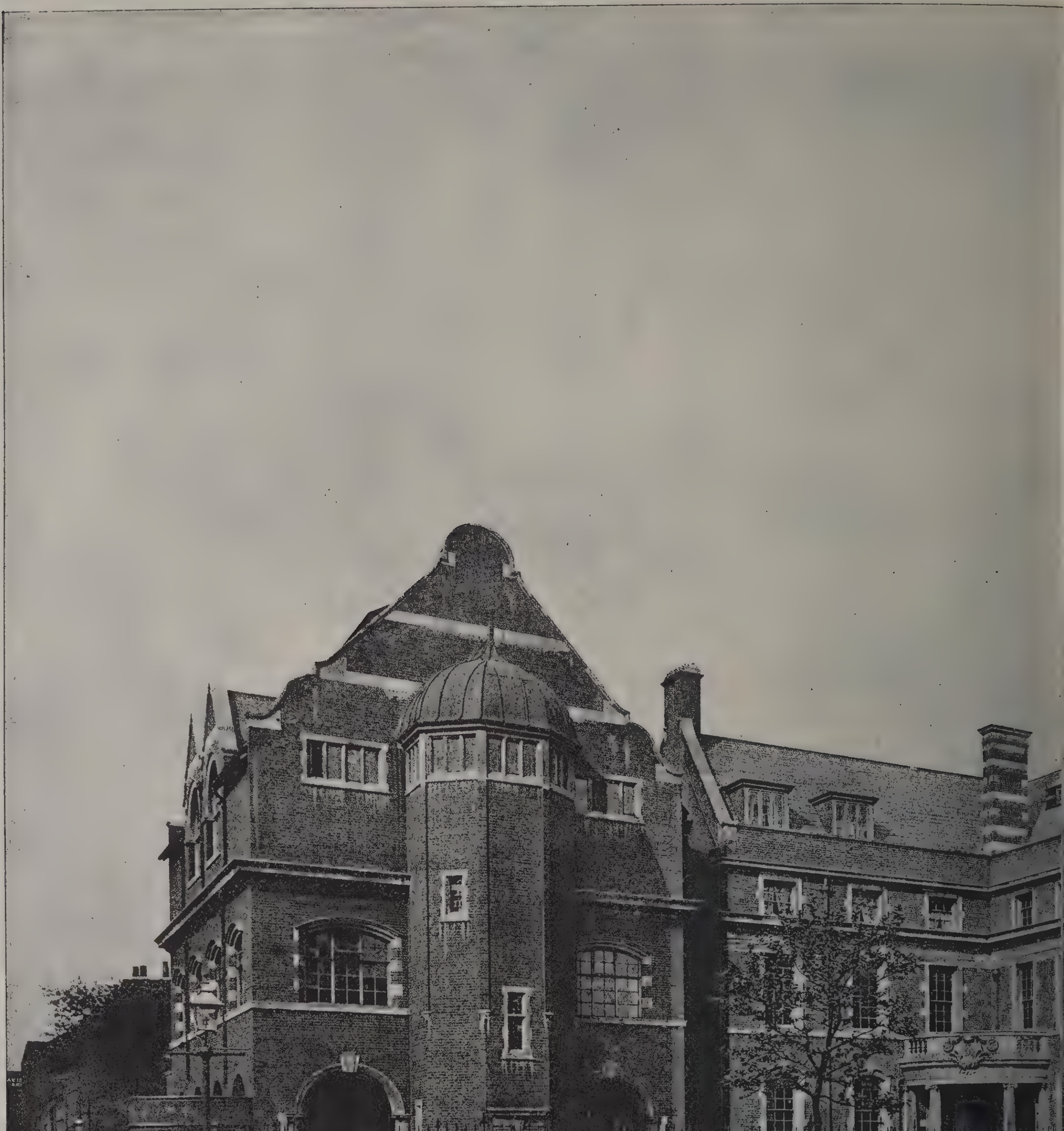

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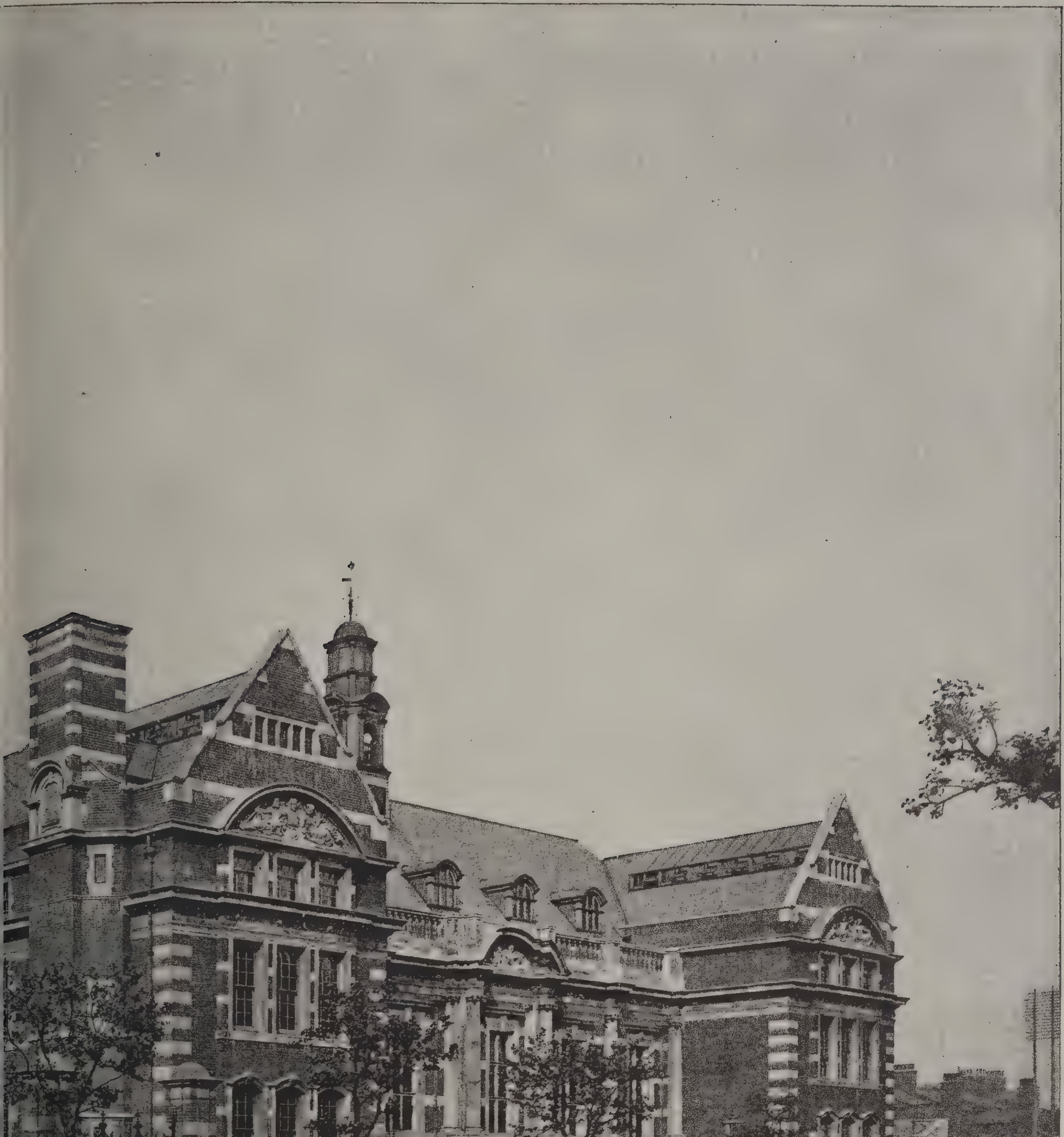

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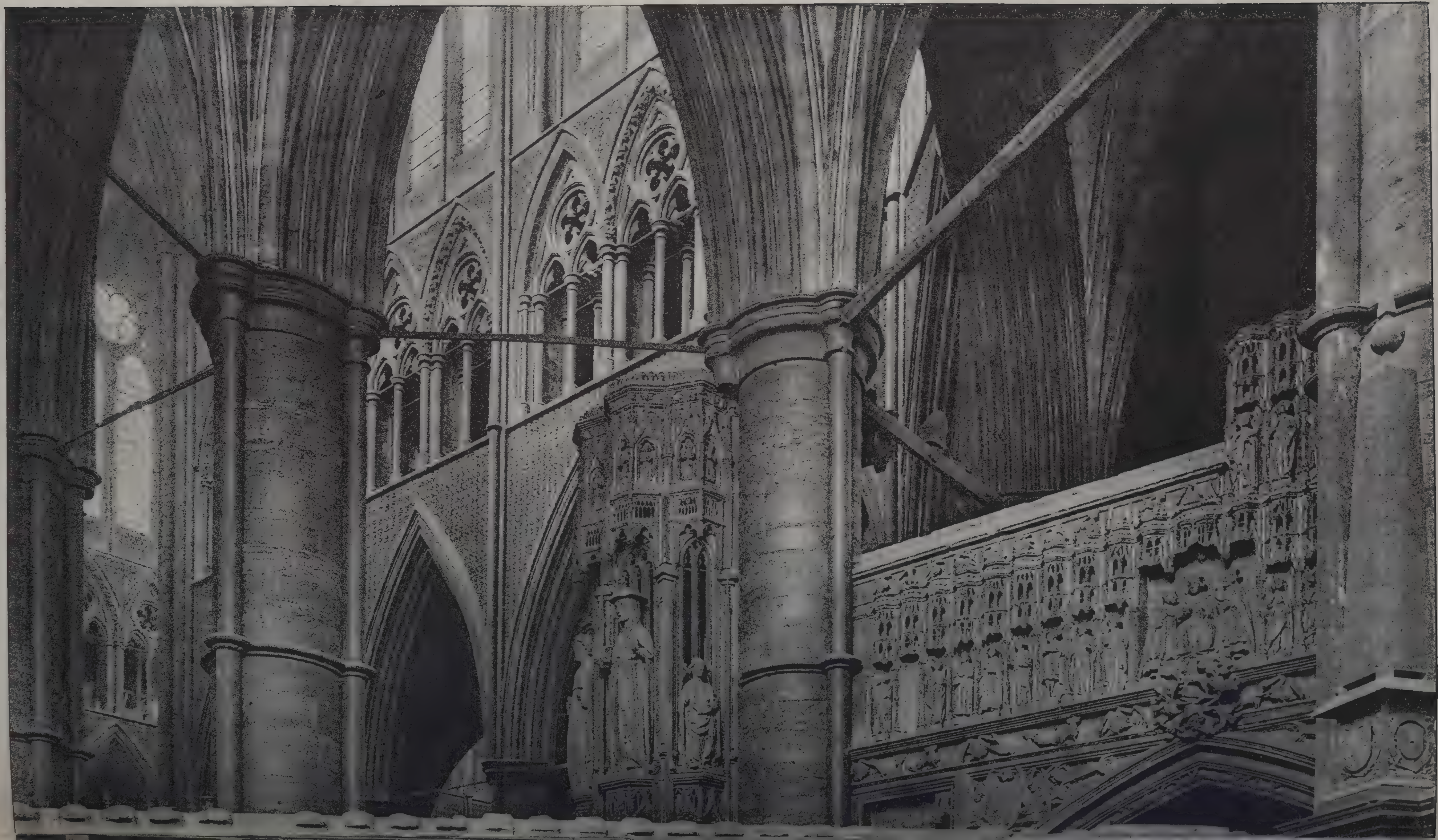

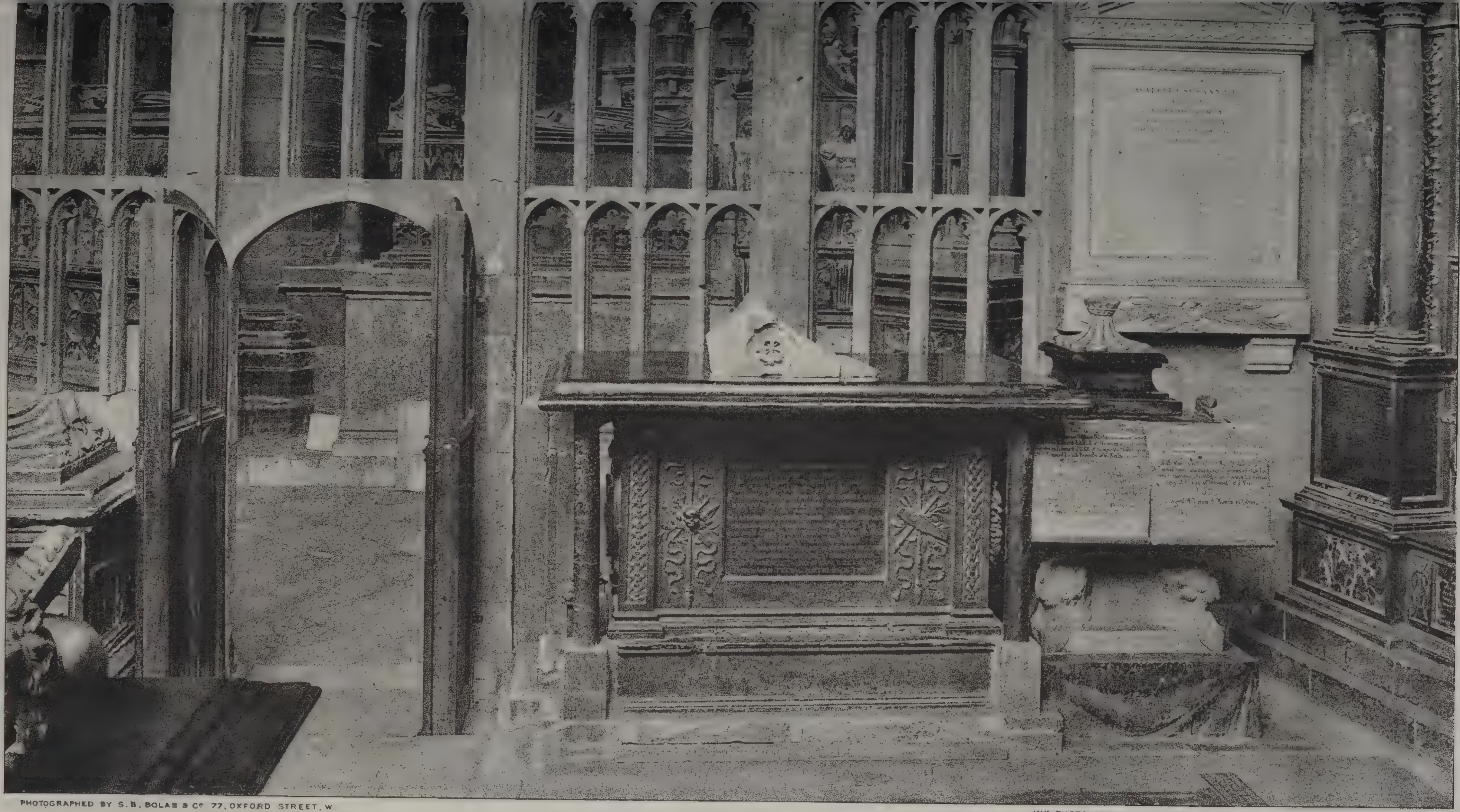

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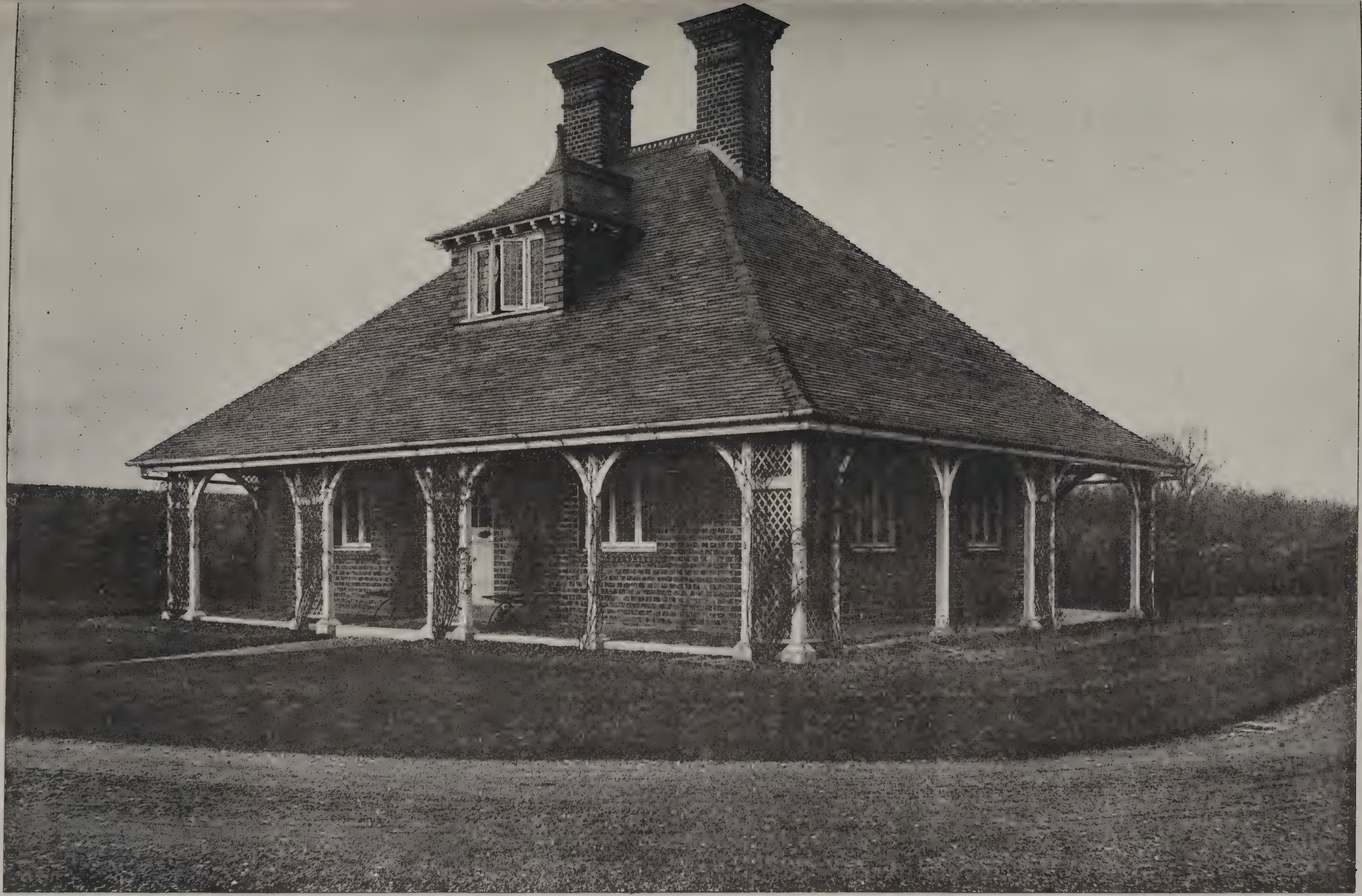
WESTMINSTER ABBEY, No. 38.
CHAPEL OF S. NICHOLAS.

The Architect, Apr 6th 1900



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“SHILLINGFORD HILL,” BERKSHIRE: THE LODGE.

GEORGE HORNBLOWER, F.R.I.B.A., Architect.

The Architect.

THE WEEK.

At the meeting of the London County Council on Tuesday the proposal of the improvements committee, that 2,000*l.* should be expended on obtaining from eight selected architects designs for the elevations of buildings proposed to be erected in connection with the Holborn to Strand improvement, fronting on the Strand and on the crescent road to be formed between Wellington Street and Clement's Inn, was brought forward for approval. Mr. Emden moved an amendment to the effect that a consultative committee of architects should be appointed to advise the improvements committee, but it was rejected, and the committee's proposal was adopted. The question of materials was next considered. It was proposed to restrict them to stone, marble or granite for the elevations. Mr. Emden suggested the use of terra-cotta without success. A concession was made to the opposition by the addition of brick to stone, marble or granite. Controversy arose over the following condition:—"The architects in preparing their designs shall have regard to the possibility of the central portion of the site lying between the new crescent road and the Strand being used for the erection of a public building." It was taken to mean that the ground mentioned was to be used for the site of a new county hall. After discussion the stipulation was approved. It was also arranged that the Royal Institute of British Architects should be asked to nominate four of the eight selected architects. The Council of the Institute had informed the committee "that in order to secure harmony of design and good architectural character they feel it to be essential to the success of the scheme that each of the intending tenants be required to go for elevations of their new buildings to one of the finally elected architects; and they would further suggest that these architects might form a committee of advice for collaboration in the whole of the architectural scheme."

All who have had experience of international exhibitions are aware that success often depends on accidental circumstances. Good judges are not always able to say what will make or mar one. There was sound reason for supposing that the 20-feet statue of a Parisienne surmounting the principal entrance to the art section of the Paris Exhibition would be a hit. It was exactly the figure which would help to suggest the spirit with which visitors should enter the exhibition. They were not to look on the collections as grave subjects for the study of political economists and statesmen, but to accept everything as if arranged to give them pleasure. The commission for the statue was given to M. Moreau-Vauthier in February 1899. The material to be used was "staff," which recently has rendered good service in the temporary structures prepared for the reception of Admiral Dewey in New York. The novelty of a work of art sometimes becomes fatal to it, for after a time the moods of people change, and they look on it with eyes that are tired by enjoyment. Instead of being a fascinating power the authorities have become alarmed, thinking the poor Parisienne must ruin the exhibition. They have accordingly decided that the statue shall be removed. The incident is a proof that the contest between ancient and modern ideas is still being waged in Paris, and, as usual, academicism has gained a victory over modernity in sculpture.

A meeting of the Surveyors' Institution will be held at Leeds on April 25 and 26. The programme may be considered as arranged. On the morning of the first day the Lord Mayor of Leeds will deliver an address of welcome in the council chamber, and, after the reading and discussion of papers, will entertain the members at luncheon in the town hall. The conference will be resumed in the afternoon, and in the evening the members will dine together. The second day will be devoted entirely to visits to works and excursions to places of interest, four separate parties being arranged for. The first will visit Kirkstall Abbey and inspect the works of the Leeds Forge Company (steel casting and forging, boiler flues, &c.), Messrs. Greenwood & Batley (hydraulic and other machinery, torpedoes and ordnance), Messrs. John Fowler & Co. (locomotives and steam-ploughs) and Mr. Alfred Cooke (printing and lithography). The second party will visit Bramham Park and Templenewsam, and the third will visit York and places of interest around. The fourth party will go to Sheffield and inspect the works of Messrs. Vickers, Son & Maxim (armour-plate rolling and finishing, manufacture of guns and marine shafting, steel melting and forging and rolling of railway tires); in the afternoon a visit will be made to the new town hall and to Messrs. Joseph Rodgers & Son's cutlery works.

The open-air treatment for consumption which is now advocated by physicians of an advanced type cannot be properly conducted without the aid of suitable sanatoria. Indoor treatment is also essential. The buildings which have been improvised in England are not comparable with the continental establishments. It is understood that Mr. William Crossley, of Bowden, has decided to expend 60,000*l.* on the erection and fitting-out of a model sanatorium. Several sites have been suggested. As the requirements of Lancashire and Cheshire would probably be first considered, it is likely that some place in Wales will be selected. There are rumours that Delamere Forest would be peculiarly eligible for patients. There is no reason why England should not be as successful as Germany in dealing with the new therapeutics. Charles II., who had lived in several parts of Europe, declared there was no climate equal to the English. The reason he gave was that it was possible to spend more hours out of doors during a year in England than in any country on the Continent. What was true of England in the seventeenth century is no less so in our time. In some places, it is true, towns have superseded open country, but there still is an area which is extensive enough to bring health to the unhappy sufferers from a disease that is supposed to be peculiarly English.

We have already referred to a case under the Workmen's Compensation Act which arose from the injury of a painter who was employed by Messrs. Perry & Co., builders, on work at the Hampton Court station, where he was injured by an engine belonging to the London and South-Western Railway Company. When the case was first tried in the Southwark County Court, the judge held that the company were not liable to pay compensation. The decision was based on the concluding part of section 4 of the Act, which runs:—"This section shall not apply to any contract with any person for the execution by or under such contractor of any work which is merely ancillary or incidental to, and is no part of, or process in, the trade or business carried on by such undertakers respectively." The workman appealed. His counsel contended that the reconstruction of the station was part of the regular business of the company and could not be considered as merely ancillary or incidental. Reasonable accommodation had to be provided for passengers and goods, and it was on that work the painter was engaged when he was injured. The Court, however, dismissed the appeal. It was held that the business of a railway company consisted in the carrying of passengers and goods. There was no obligation apart from what was assumed in their special Acts to erect a station at any intermediary spot on their line. The construction of the Hampton Court station or its alteration could not therefore be considered as ancillary or incidental to the main trade or business of the company. The decision will have to be considered with attention by builders who undertake station building, and more especially by their workmen. It is remarkable that the liability in the case of a workman who was indirectly employed by a railway company should be less onerous than it is with an ordinary individual who was not so employed, but the Workmen's Compensation Act abounds in anomalies and no Court can remedy them.

THE GUILDHALL EXHIBITION.

Exhibitions of which the contents have been brought together on a concerted plan and which have a definite aim are undoubtedly the most interesting for those who consider paintings with attention. In such cases pictures cease to be fragments, for they all co-operate in impressing the spectator. But as everyone has much faith in chance, there is likewise interest in discovering what it can effect. A committee will write, for instance, to say a hundred owners of pictures. Only a small percentage may care to part with their property, and the contributions offered may not be those which were sought. In the exhibition which follows pictures are to be found with strange and probably undesirable companions, which are not mutually advantageous, and as one of fortune's freaks the irregularity is sometimes entertaining. The Guildhall Exhibition just opened is one of those cases. It is supposed to be representative of "living British painters." But on that point we doubt if the ordinary amateur will be certain when he encounters some names. The pictures are said to form a loan collection, and by common usage the phrase means pictures which were obtained from private galleries. But nearly thirty artists have contributed unsold works from their studios. Dealers are also among the contributors. If a picture is a good one it does not matter where it came from; but all similar exhibitions are expected to be as much evidence of the state of amateurism as of the state of art. We also know that when the Royal Academy closes pictures have to journey to exhibitions in the provinces as if they were strolling players. But it will be saddening if within the Guildhall Gallery we are to see works which have been tried in Piccadilly as well as in country towns and were found wanting. It will be a consolation to many painters to learn that the Corporation have opened an additional market for pictorial wares, but it should have been announced what are the conditions which those painters who have the privilege of admission to it are to comply with. The peculiarity of the exhibition may be explained in another way. We can easily imagine the library committee were disappointed in their appeals, and as a last resource were compelled to have recourse to artists to help them in the emergency. Whatever were the conditions adopted in collecting, the exhibition taken as a whole is interesting, but there are some pictures on the walls which, under the circumstances, must give rise to surprise.

It is satisfactory to find so many provincial galleries have been able to aid by lending pictures. From the Corporation of Liverpool five have been received, including Mr. Briton Rivière's *Daniel.* Manchester has lent two, one being Mr. Holman Hunt's costly *The Shadow of Death.* The Birmingham Corporation own a landscape by Mr. North. The Corporation of Glasgow lend Mr. Whistler's *Carlyle*, and from Leeds, Maidstone, Dundee, Nottingham there are also loans. The most important picture in the collection, the *Queen of Sheba's Visit to King Solomon*, comes from the National Gallery, Sydney, and the *Scene at Quatre Bras* belongs to the National Gallery of Victoria. These inter-municipal courtesies are to be encouraged, but the London Corporation are not in a position to reciprocate in a manner becoming their wealth and position. Their patronage has been too irregular and too economical to do much for art. Reputation is, however, sometimes easily acquired, and any stranger who listened to the speeches on Monday would imagine that London was able to hold its own in encouragement of the arts with any of the old cities of Italy. We can therefore understand many owners of private galleries saying, when asked to part with their treasures, "If the Corporation are eager to obtain pictures, they are wealthy enough to purchase what they profess to esteem."

If we follow the order of the catalogue, which is described as under revision, or, in other words, is full of errors, the first picture we meet is Mr. Clausen's *Peasant Girl.* It was painted in 1882. Too many of the artist's paintings of field hands are suggestive of white slaves, but this subject is not oppressed with labour. She is healthy, handsome and well clad, although not in the style of the fashion plates. The blue dress and light blue apron suit the sobriety of the figure, which is not reminiscent of any particular French painter. It would be difficult to find a more incongruous companion for this genuine and thoroughly finished work than Mr. Hacker's *Daphne*, which is a pale nudity with a background of foliage. The pose is somewhat awkward, but was adopted to afford a variety of contours; the feet are not adapted to support a being that has weight. Mr. J. W. North was in a happy mood when he painted the *Sweet Meadow Waters of the West.* Very little water is to be seen, but we have not only brown trees, but green trees of various hues. One novelty is the introduction of a cart in the foreground with figures so coloured as to give effect to the landscape behind. Mr. Aumonier's *Sunday Evening* is a Sussex church near a creek, with a wooden bridge across. It is solemn, but in its position it appears to be faded. The *Gannet's Nest* of Mr. Graham gained so much popularity when it was first exhibited, it was caricatured. The idea is excellent—swirling waves as seen between high projecting rocks, and which gain animation by the contrast between the action of the water and the motion of the countless sea-birds. Mr. Briton Rivière's *Daniel* was painted in 1872, and the lions and lionesses are as fresh in colour as when they were first seen. This may be partly owing to the black gown of the prophet, for that colour is an auxiliary to most others. The differences of expression between the beasts have aided in the success of the work, and the contrast between them and the sculptured lions on the wall of the den is also effective. Sir W. B. Richmond's *Venus and Anchises* does not follow the usual treatment of classical subjects. The artist went to Shelley for inspiration, but it is needless to say that the "Epipsychidion" is not a narrative of the loves of Father Anchises. It is a fragment of a poem which was to correspond with the "Vita Nuova" of Dante, and, in fact, is only an introduction to a larger work. The lions introduced are weak, and they become more so from the proximity of Mr. Rivière's. Fate and the hangers were not propitious to Mr. Marcus Stone when they placed his *In Love* between the *Venus* and Mr. Abbey's *King Lear.* The Shakespearean picture is an admirable version of the scene of the renunciation, although the precedent of the ancient painter who veiled Agamemnon is followed, for we only see the back of Lear. In it, as in the scene from Richard III., the painter adopted the wise course of refraining from accepting the stage as a source of inspiration. Mr. J. R. Reid's *Smugglers* is boldly painted, but it is hung too high for appreciation. In Mr. Dicksee's *Reverie* a ghost and artificial light are elements, so no more need be said to suggest its character. Far preferable is Mr. Christie's *Red Fisherman*, in which such lighting as cannot be seen on sea or land is rightly employed, for it is a scene of diablerie.

Lady Butler's *The 28th Regiment at Quatre Bras* should be as popular now as it was a quarter of a century ago. Although the colours are laid on thinly, or it may be on that account, they have withstood the course of years. The impenetrable British square such as is depicted has not been of any value in South Africa, where the enemy does not resemble Napoleon's army, but although it may appear an obsolete formation, England owes much to it. All the heads of the soldiers in the square are full of character with one unfortunate exception, viz. the Irishman with the red tow-wig and conventional expression, a figure that debases the group to the music-hall level. It is a blot which should be painted out, and its absence would greatly increase the realism of the picture. Mr. Gow's *Queen's Diamond Jubilee* is one of three representations of the scene outside St. Paul's which appeared two years ago in the Academy. Mr. Croft's *Evening of the Battle of Waterloo*, which comes from Liverpool, suggests the effect of the Prussian attack, although not one of the terrible Hussars is to be seen. It is dramatic, but Napoleon appears a criminal of too common a type. Mr. Leader's *Fast Falls the Even Tide* is such a scene as might be met with all over the country, for it consists of no more than a few fields, a row of trees with a church in the distance, but it is so entirely unaffected and is so excellently lighted that the picture is sedative, and many Londoners we expect will regard it with satisfaction. The *Moon Rise at Twilight*, by Mr. Olsson, shows one of those conflicting contrasts which nature offers, but which few artists have the courage to depict.

The Queen of Sheba's Visit to King Solomon, by Sir E. J. Poynter, measures 92 inches by 138 inches. It is difficult to decide whether the artist considered the architecture or the figures should have more importance. It was a difficult task to recreate a style of architecture of which so little can be known; but the President, as became the son of an architect, has executed what he had devised with an astonishing skill. The red and gold columns, the combination of metal and ivory and gold, the luxurious plants, the gold plate have the great merit of appearing to be derived from something which undoubtedly existed, and which still can be verified. A more impressive ancient scene was never presented, and the figure of Solomon obtains an enhanced interest because our imagination can credit him with the creation of so noble a palace. The portrait of *Mrs. Fildes* revealed the skill of her husband as a portraitist. The figure appears as gracious as before, and the contrast between the black silk and the red background is no less salient. Mr. David Murray's *River Road* is one of his landscapes which show his indifference to accepted rules of composition. Here is a spot in which all things wear out at leisure: the river is lazy and merciful to the banks; the old bridge of red brick and stone has been slowly settling, and the trees seem as if the leaves could not move. Near it is *The Valley of Slaughter, Isle of Skye*, by Mr. C. E. Johnstone, a gloomy scene made gloomier by the treatment of light. The *Lady of Shalott* is a tempting subject on account of its difficulty. But it is one of those which had best be left to the imagination. Mr. Waterhouse's version is not remarkably successful, and we suppose for many a year other artists will be induced to repeat the experiment. *The Wild North Sea*, by Mr. R. W. Allan, is very rough but vigorous, and realises one of the simple northern piers which have to be so often tested by fierce seas.

The Guildhall galleries are not adapted for large exhibitions, and a painter who has any voice in the exhibition of his pictures would do well to object to their appearance on the walls of the upper floor. Although it cannot be denied that excellent pictures are to be found there as well as on the landing, yet the elevation somehow is suggestive of a transition towards the ancients. Mr. Frith's *Witchcraft in the Middle Ages* was painted in 1848, and at one time was much admired. It has the merit of exciting sympathy with the accused, who appears to be a philosophic old dame surrounded by men and women who have lost self-control. There is no doubt it is dramatic, but that is a quality which is not in much request. *The Quarry Team*, by Mr. Stanhope Forbes, shows four horses drawing a large block of stone. It is French in style, accordingly the colours adopted are in keeping with the stone, and the action of both men and horses has something of its inertia. *Landscape and Cattle*, by Mr. Sidney Cooper, was painted nearly a quarter of a century ago, and time seems to have given mellowness to the colours. Mr. H. Wallis's *The Return from Marston Moor* shows a wounded soldier riding up to a cottage or gate lodge occupied by an elderly couple, where everything is suggestive of peace. When *Hypatia*, by Mr. C. W. Mitchell, was exhibited in the Grosvenor Gallery in 1885 it was taken to be a revelation of a new power. The noble woman who is at bay against the altar is no ordinary nudity. There is, in fact, no suggestion of the model; she seems an embodiment of life that is about to be extinguished, but cannot vanish without one appeal to Heaven. In the Guildhall it is hung at the end of a narrow landing, as if it were only adapted to fill an awkward space. Mr. Orchardson's *Marketing in the Honeymoon* exhibits the colours he still prefers, and it is not without humour, for the bridegroom appears to be longing for the sweets which are being sold in the little shop. The *Judas* of Mr. J. C. Dollman is more impressive than any picture of highwaymen. The betrayer is in the desert, and the desolation seems an effect of his crime. The portrait of Miss Astor by Mr. J. S. Sargent is one of the artist's most characteristic works, for effect is gained by so few touches as to seem without connection. In a similar style, but more telling, is Mr. Shannon's *Magnolia*—a girl in black wearing imitations of antique jewels. Mr. Hook's only work is *Caught by the Tide*, in which a sturdy little boy on a rock with two little girls is making signals to a boat; it is very simple, but no other artist could realise it so well. *The Audience of Agrippa*, by Sir Laurence Alma-Tadema, is universally known by means of engravings. It is a commentary on the life of a Roman statesman. We should like to see it in another position, for where it is hung it appears as if much of the sheen of the marble has disappeared, yet it cannot be said that the picture has in any way deteriorated. *The Ramparts of God's House*, by Mr. J. M. Strudwick, might be signed E. Burne-Jones. It is intended to represent the arrival of souls in Heaven, but no man who was born in the nineteenth century has the power to realise a scene so out of variance with what is around us. A preacher would not be likely to employ it as an aid to a discourse about seeking the Kingdom of Heaven. Mr. F. Goodall's *Mater Purissima*—a young woman bearing two doves and clad in blue and white—is one of those simple pictures which carry conviction. Admirers of the sea should contrast the *Atlantic Waves* of Mr. Colin Hunter and the *Lost* of Mr. Napier Hemy. The treatment has much resemblance; although the capricious hues are different both are alike natural.

The Shadow of Death, by Mr. Holman Hunt, must always hold a prominent place among examples of English art. But it should be judged from its original condition, and it is hard to understand how that can be known hereafter. Unless our memory is at fault the picture has changed. The colour of Christ has not only become more red, but the flesh is more rigid, and approaches towards a wooden figure by a sculptor. The shavings, which appeared so light and characteristic, now look as if formed of a heavy material. The carpenter's tools, the Wise Men's offerings, the dress of the Blessed Virgin and other inanimate details exhibit the same power of perseverance in taking pains. Mr. Faed's *Worn Out* does not represent an English carpenter, but a Scottish wright, who was watching by the side of his sick child. This will explain the fiddle and other accessories, the blue of the waistcoat, the muddy boots, which indicate the difference between the two classes. Mr. Whistler's *Thomas Carlyle* is another example of thin painting; it has had its migrations and has been exposed in several exhibitions both to gaslight as well as to sunlight, but we can discern no change in it, and it must be allowed it is not the only portrait by the artist which possesses similar power of endurance.

By Mr. Watts there is only one work, a rather small *Cupid Asleep*, in which the flesh of the child reflects the colours of the roses which are above it. *Il Buon Padre*, by Mr. Logsdail, deserves respectful recognition for the fidelity with which he represents the church in the background; the picture is a masterpiece. *A Summer Shower*, by Mr. Perugini, three girls under a tree, is statuesque enough to serve as a model for a centrepiece. Mr. E. J. Gregory has *A Scotch Glen*, true enough as regards the land, but so blue a burn is not to be seen in Scotland. *Too Late* is one of those pre-Raphaelite survivals which make one wonder how the spirit which inspired them, which is not conducive to pleasure, could be supposed to be art, and how people with human feelings could endure such a picture before their eyes. We are informed in the catalogue that "The picture shows a young woman in the last stage of phthisical disease, meeting the careless lover, whose absence has been the cause of her decline." No less painful to look on is *The Foundling*, by Mr. Cayley Robinson. "Earless on high stands unabash'd Defoe" was Pope's description of a writer whose fame will last as long as his own. He was incorrect, for the creator of "Robinson Crusoe" was able to preserve the appendages which Charles Lamb calls "the handsome volutes to the human capital." Mr. E. Crowe represents *Defoe in the Pillory*, the hieroglyphic State machine being supposed to stand in front of Temple Bar. The people sided with him on that occasion and decked the pillory with flowers. The incident is well depicted by Mr. Crowe. Mr. Byam Shaw's *Blessed Damozel* is another celestial picture very rich in the colours of the costumes, but it is not exempt from the customary dreariness of such scenes. *Sinbad Entering the Cavern*, by Mr. A. Goodwin, will captivate all who have read the "Arabian Nights," but we doubt if Mr. John Brett, who has a picture of Newquay close by, would approve of the way in which the strata lend themselves to the artist's fanciful disposition. Mr. G. D.

Leslie's *Pot-Pourri* continues to be delightful, but time has not respected the faces which were originally so delightful.

The contents of the collection, it will be seen, are varied. If the whole of the 115 pictures are not of the highest class, it may be assumed they are all sufficiently attractive to give delight to the visitors who will enter the gallery during the coming weeks. As a rule, 200,000 people pass the turnstile whenever one of the Guildhall Exhibitions is open. Many of them are unable to visit the National Gallery or the South Kensington Museum. It is therefore a boon to them to have an exhibition in the City which can be visited without cost, and which does not contain works which are too difficult to be comprehended by humble folk.

THE RAFT OF ULYSSES.

A STUDY IN ANCIENT CONSTRUCTION AND CARPENTRY.

By the late W. Watkiss Lloyd.

In the account of the construction of the raft of Ulysses upon which he was to leave the island of Calypso, we have an example of the artifice by which Homer blends details of such natural simplicity with his most marvellous incidents as to prevent our ever feeling that we are quite beyond the bounds of the possible, if not of the familiar. Poetic fiction here avails itself to admirable purpose of the same scheme which a prevaricating witness employs to give verisimilitude to his inventions—the apparently scrupulous introduction into the narrative of details which are quite unimportant relatively to the monstrous allegations which are alone matters of interest. So the poet by his specific minuteness on some matters blinds us to the coolness with which, as if on the strength of an established character for conscientiousness, he takes much more for granted. The difficulty which Ulysses experiences when his ship is first struck by lightning and then shattered is so truthfully described, that it may easily not occur to the reader to inquire how it was that he could sustain life when he was swimming for nine days and nine nights before reaching the island of Calypso. Again, after the care the poet takes to explain how it was possible for Ulysses to construct his raft, it were ungracious and unreasonable to press him further as to how the hero could navigate it for seventeen days and nights without a wink of sleep.

This, therefore, is an artifice which, after warning, it is well to be on our guard against when attempting to recover the precise conception which the poet had in his mind of this navigable raft. He tells us minutely enough some of the details of construction, but we are not free to infer that these are all, that he does not skip many others, and that the raft when complete as he imagined it, and expected it to be imagined, was not something much more complicated than the description quite accounts for. No explanation or apology is offered for calling upon us to accept the narrative how, within the space of four days and without exhaustion, Ulysses felled twenty trees, squared them, drilled them, bolted together a frame of the breadth of a merchant ship, and fitted his craft with mast, sails and rudder—four very good days' work indeed. After all this has been passed unchallenged, it is clear that we must not be too pressing for minute justification and complete details. The poet succeeds in conveying an impression that his description is complete, and when our object is simply to enjoy the poetry, we may consent to be hoodwinked. It is quite fair, however, after this desire has been indulged and due homage has been paid to the poetry, and it is quite worth while, to take the archæological point of view and inquire what particulars can really be made out as to his views upon naval architecture—on the technicalities of construction which he conceived to be applicable to a sea-going craft. The construction of this raft was made the subject of an interesting and carefully studied paper by Mr. Warre, who is understood to have gained great position as a river coach of the young oarsmen of the Thames. His conception of a raft that has a chance of living at sea seems not entirely satisfactory. He gives an engraving to illustrate his interpretation of the poet's description, but his contrivance would surely be classed at Lloyd's much lower than the Eastern catamaran which, very candidly, he engraves for comparison with it. Rickety as it looks, this is assuredly a more seaworthy craft, and it is simpler of construction—nay, it may even be contended, is in more striking agreement with the terms of the Homeric specification. In this respect also Mr. Warre does not do himself, or his subject, or his readers justice; that while he scarcely provides a sufficiently literal translation of the passage which is the basis of his commentary, he does not consult the convenience of Etonians by quoting the verifying Greek.

The following is extracted from a complete translation of the "Odyssey," which follows the original line for line and word for word as closely as possible, and rendered, it is believed, in the nearest approach to the Homeric metre that the genius of the English language admits of:—

V. 234. An axe of great size to his grasp very fitly adjusted she gave him,
235. A brazen, brought to a sharp edge on either side; to it attached was
A very beautiful olive wood handle, firmly fitted;
And after that gave him a well-chipping adze; and she led the way on to
The island's extremity, where a growth of tall timber had sprung up,
Alder and poplar and pine tree, rising up to heaven,
240. Seasoned already and very dry, which would float for him lightly;
But when she had pointed out to him where was the growth of the tall trees,
Calypso, goddess divine, went back again to her dwelling.
But on he went felling the trunks, and his work for him rapidly speeded;
Twenty in all he brought down and with the brass tool trimmed them,
245. And very skilfully smoothed and brought by line to straightness.
Meantime Calypso, noble goddess, brought to him augers,
And then he drilled them all and matched them one to another;
And then with trenails and mortises bolted the raft together;
As large as a man shall round him the bottom frame of a vessel,
250. Of a broad merchantman—one who of carpentry has good knowledge—
Even so great was the size that Ulysses wrought for his broad raft;
And he put cross timbers in place and fitted to close-set uprights,
As he went on working; and lastly with lengthwise timbers completed.
And in it he wrought a mast and a sailyard fitted to it;
255. And for it moreover he made a rudder that he might steer it;
And he fenced it from end to end with work of twisted osiers,
For protection against the waves; and spread therein plentiful ballast.
And in the meantime Calypso, noble goddess, brought robes
For making sails, and these he also skilfully fashioned;
26c. And in it belayed he the braces and halyards and in it the sheetlines,
And on to the sea divine by aid of levers launched it.

It will be noticed that the tool-box of Calypso supplies no saw, and the adze is supposed to be sufficiently handy to enable Ulysses to shape and smooth the tree trunks so that they may be brought pretty close together. Mr. Warre observes that a contrast is intended between the two tools by the notice with respect to the axe, that its sharp edge is produced by being ground on both sides. The metal of both tools is called *chalkos*. It is, of course, in strictness not accurate to translate this as brass, or rather it would be a mistake to understand such a translation as implying an equivalent to the modern brass. Copper or bronze might seem more correct, but usage has established the word brass as the most conveniently and euphoniously representative word for a metal of which the properties as implied by the poet do not correspond with either pure copper or any bronze we are acquainted with. That the age of bronze swords was a reality is proved by the witness of a whole army of genuine weapons recovered from the ruins of time, but the examination of these does not explain how it was possible for axes formed of like metal to cut down oak-trees, as in the preparation for the funeral pyre of Patroclus in the "Iliad," or even the dry but still sound spars which fall so readily under the strokes of Ulysses. However, the trunks being once felled, the next work of trimming them of their branches and bringing their sides to a smooth and level surface by aid of adze and line, follows in order of course as specified. Then Calypso brings him augers—augers in the plural, therefore more than one, as if for different gauges—and with these he bores his spars to receive the trenails which are distinctly specified. The trenails are long wooden pegs fitting tight into the opposite holes prepared for them, and so clamping two beams together. Dowels or coaks, as well explained by Mr. Warre, are shorter and thicker; they are thick for strength, and would be available to keep beams which are laid together side by side in their places against the force of water from below, but quite short in order not to weaken the timbers into which they are inserted.

In the line 248, "And then with trenails and joinings he bolted the raft together," trenails is an accurate and undoubted translation of the Greek *gomphois*. Mr. Warre translates *harmoniesi* by "dowels," but upon his own ill-supported responsibility. The translation, "joints" or "joinings," is confirmed by a remarkable passage in which Herodotus describes the construction of Nile boats—a description otherwise illustrative of the raft which we are engaged upon. "They square timbers two cubits (3 feet) long, and lay them together brickwise (that is, so that one timber covers the joints of two beside it), fasten them with numerous long trenails, and then cross them with other timbers." Then follows a clause which is of contested translation, as implying either "they caulk the joints with byblus," or "they strengthen the connections with lashings." Whichever is adopted, it is clear that *harmonias* is to be understood as joints or joinings more or less close. And so we may understand Homer to refer to the good carpentry of joints which, in conjunction with the trenails, gave solidity to the floor of the raft. It is quite inconsistent to suppose that Ulysses, working like a "man well skilled in carpentry," pinned together the floor of his raft entirely of timbers laid parallel. The joints which seconded the binding effect of the trenails were of course not parallel joints of timbers laid close together; these would be weak points which required strengthening. We must assume that they are the notched or mortised joints of cross timbers countersunk into the lengthwise timbers at either end of the raft. There was no necessity for these timbers to be brought quite close to each other; in fact, an interval gave opportunity for the further security of lashing to the transverse timbers. The word which Æschylus uses to describe the clenching of the rivets of the chain of Prometheus is the same which Homer applies to the knocking together of the mortises and trenails. Ulysses effected a firm joint by heavy blows bestowed not only on the trenails, but also upon the mass of the timbers which were to be brought up to and held in close contact at the points where the trenails were inserted.

The phrase of the comparison, "As large as a man shall round him the bottom frame of a vessel"—shall round or circumscribe it—involves an allusion to the floor of the raft being finished at either end with special adaptations. This, it will be seen, is the principle of construction of the catamaran, of which Mr. Warre gives an engraving.

His labours so far have formed a heavy and well-compacted platform, which the poet compares in respect of size to the frame or horizontal plan of a merchant vessel. We may translate the word employed as "the floor" provided we do not understand it to mean the deck. The size seems extravagant, but that is the poet's business. The raft is more than once referred to before there is an end of it as manifold-bound—*polydesmos*, as if strengthened by lashing. So Æschylus describes the bridge of Xerxes over the Hellespont as a raft lashed together with flaxen ropes. Ulysses is found to have a supply of ropes for his rigging, and the poet probably assumes and intends us to assume, if we care to think about it, that he employed ropes in connecting or strengthening various parts of his construction. A mere combination of clamped horizontal beams even when strengthened by others crossing at right angles would certainly be crank enough, and nothing is said of any timbers laid obliquely athwart them to secure true stiffness. The construction, apart from such transverse beams, would break apart forthwith.

Lightly as the timber employed might float, an upper construction is required if the navigator is to keep even his feet out of water. Accordingly Ulysses next erects uprights or posts upon this platform very close together, and to these he attaches timbers which are called *ikria*, a word which enters into compounds denoting benches or yard arms, and thus manifestly to be interpreted here as transverse to the length of the raft. But it is still more to the purpose that the word occurs in the "Iliad" and "Odyssey" as the name of the half-deck of the Homeric ship which afforded footing, and the limited extent of which is shown by the fact that it might be occupied by a sleeper without interfering with the places and action of the rowers. Scarcely therefore in such a case as the present are we entitled to assume more of a deck than Ulysses required to lie down upon, or perhaps even for a somewhat elevated seat from which to steer and manage the sail. The extensive upper deck which Mr. Warre assumes, and at a height to allow a man to walk under it, exceeds all the requirements of the case, and is entirely unsupported by the implications of the text. Ulysses, we then read, finished up his work so far with long *epegkenides*, a word which by its derivation and in agreement with the epithet seems literally translateable by "stretchers." It seems most consistent to regard these as gunnels (gunwales), the recognised completions of a raft, timbers laid to form a ridge along the edges. He then, as some protection against the wash of the waves, carried round it a fence of wattled osiers, and, according to an ancient interpretation of the next phrase favoured by Mr. Warre, backed it up with bundles of brushwood. According to an alternative, also ancient, interpretation, he put in a great deal of ballast. Mr. Warre affords the best illustration of the superiority of the scheme of the raft here advocated, as compared with his own, by his engraving of the Oriental sea-going catamaran.

The rest of the bold navigator's arrangements explain themselves. But having brought the hero so far onward with his work, the least we can do is to see him off on his voyage:—

> The fourth day it was, and by that had all been entirely completed,
> And on the fifth Calypso divine set him forth from the island,
> When she had fully arrayed him in fragrant garments and bathed him.
> 265. And the goddess deposited for him on board a skin of dark wine,
> One, and another a large one of water, and also provisions
> In a wallet, and also put in many dainties sustainers or vigour;
> And she sent forward a breeze unharmful at once and gentle.
> And Ulysses divine rejoiced in the breeze, and the sails expanded;
> 270. He then skilfully was directing the course with the rudder,
> Seated; and never was slumber at all on his eyelids descending,
> As he to the Pleiades looked and Bötes the tardy in setting,
> And the Bear which also has of Wain the designation,
> Which revolves in the same place and ever observes Orion,
> And is alone exempt from the bath of Oceanus.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

An adjourned general meeting of the Institute was held on Monday evening last, Mr. Wm. Emerson, president, in the chair.

Mr. Alexander Graham, hon. secretary, announced the decease of Signor Michele Ruggiero, elected hon. member in 1887.

The President said the object of the meeting was to continue the discussion as to a reform in the law referring to ancient lights Three papers were read at the meeting on March 19, and it was shown that the law relating to ancient lights was responsible for many acts of great injustice, and had been the means of most unscrupulous behaviour on the part of many persons The time had arrived when some action should be taken by the Institute whereby the law as it now stood should be rectified by Parliament. He suggested therefore that a committee should be formed to draft a Bill for the alteration of the present law.

A letter was read from the President of the Surveyors' Institution regretting his absence owing to doctor's instructions, but approving of the movement, and desiring the co-operation of the two Societies in the reform.

The Secretary read the following from Mr. Arthur Cates :—

Reform of the Law of Ancient Lights.

Every one interested in the establishment of right and justice, and in the abolition of the tyranny and blackmailing perpetrated under the sanction of the present law of light as administered in the Courts, must be grateful to the practice standing committee for having brought the subject again before the Institute, and for having introduced its discussion by the three able papers read on the 19th ult.

For many years at intermittent intervals the subject has been considered and discussed here, resulting in the publication in the Proceedings and Transactions of a large amount of valuable matter, which might now be collected and, so far as it may bear on the reform of the existing law, be republished as a convenient handbook for the information and assistance of those who may desire to follow up this discussion to some practical conclusion.

Assuming that the resolution which Mr. C. H. Brodie proposes to submit to the meeting will be adopted, it would appear to be desirable that no attempt should be made to devise some scheme for merely diminishing the evils which, it is admitted, the existing law as now administered permits and encourages—thus to a great extent accepting the present state of the law as equitable and correct—but rather the endeavour should be made *inter alia* :—

To investigate the principles on which it is alleged that such law is based.

To ascertain the reasons which influenced the Legislature in enacting the particular clause under the alleged authority of which so much extortion is practised and hardship inflicted.

To illustrate the mischievous and unjust action of the law, and the opportunities it affords for oppression and extortion, and thus give good reason for the pressing necessity for a radical change.

To inquire into the law of other countries on the subject.

As regards rights of light which are manifestly encroachments on the servient tenement, to consider how such servient owner could be protected, by the really equitable and just system in force in Scotland, or otherwise, from the aggression of his neighbour—the real evildoer and first aggressor, the dominant owner.

In addition to the references given by Mr. Brodie in his memorandum, much useful information in the directions above indicated will be found. My remarks in the discussion on the law of light and air—Proceedings, session 1880-81, No. 13, March 17, 1881, pp. 188-91—contain much information as to actual experience, regulations controlling the height of buildings in relation to the width of streets, the French law, the Scotch law, &c., generally pointing to the necessity for a reform of the law, which will be of service in the consideration of the matter, but would occupy too much time to recapitulate here.

The special committee appointed after the above-mentioned discussion requested Mr. J. Leybourn Goddard (author of "The Law of Easements") to report on the law respecting light and air as it existed previously to the passing of the Prescription Act, and to show how the law of prescription grew up before that Act was passed, what were the reasons for the passing of that Act, how that Act was brought in and passed through Parliament, and how the law regarding light and air was affected thereby. Mr. Goddard's report was printed in the Proceedings, 1881-82, May 11, 1882, pp. 254-67, and clearly shows how little consideration was given to the question of light. The Prescription Act was the first result of the labours of the Royal Commission on the Law of Real Property, and on p. 263 Mr. Goddard sets out the few words in which this most important subject was summarily dealt with by Lord Tenterden —without explanation or qualification—and thus became law without apparently any discussion or amendment in either House.

Mr. Edward Stanley Roscoe, who was associated with me on that committee, also carefully examined the report of the Royal Commission and the evidence on which it was based, but did not find that the question of the right to light was specially discussed either by the Commissioners or the witnesses, and it seemed to him to follow that as the question was not discussed in Parliament, the Act was passed, so far as regards the right to light, without there being any reason for it and without any consideration of its probable consequences, and there appeared to him no reason why the mere fact of such a measure being in the Statute Book should be any argument against its repeal, having regard to the circumstances under which it became law. Mr. Roscoe's observations will be found in Proceedings, session 1882-83, No. 15, May 31, 1883, p. 143, and No. 16, June 14, 1883, p. 154.

In the Proceedings, session 1882-83, No. 10, March 8, 1883, p. 96, there is a communication on the subject from the Manchester Society of Architects, in which they say:—"The simple gaining of an easement of light over an adjoining property by lapse of time only this Council does not consider justifiable, and it would be glad to see the law altered. The system of gaining an advantage surreptitiously is not in accordance with the views of morality held by the Council of this Society."

In the Journal of Proceedings, vol. 2 N.S., No. 19, August 12, 1886, pp. 281-85, are "Reports on the Law of Light and Air in Scotland," contributed by William and C. J. Maclean for the Glasgow Institute of Architects, and by the Edinburgh Architectural Association.

The latter report thus summarises the law:—"In Scotland such servitude is regulated by express grant or contract, and cannot be constituted by prescription. In the law of Scotland light and prospect is a negative servitude, *i.e.* a servitude in virtue of which a servient proprietor is prohibited from performing some act which, but for the servitude, he would be entitled to perform. A negative servitude can only be constituted by a grant. It does not admit of possession, and therefore cannot be acquired by prescription."

Personally I am very pleased to have been able to bring this just and equitable view of the law to operate in a limited extent in London. When, some thirty years ago, consulted by the Commissioners of H.M. Woods in charge of the estates of the land revenues of the Crown in London, with reference to the management of those estates, I advised that, in order to put a stop to scandalous litigation between the Crown tenants, resulting in blackmail or the crippling and cutting down of buildings and hampering the development of the estate, all future leases should contain a proviso taking away from the lessee all right of light over adjacent Crown lands. This recommendation was adopted, and such proviso has since been invariably inserted in every new lease ; shortly afterwards this came incidentally under the notice of the Master of the Rolls (Sir George Jessel) and was warmly approved by him. The proviso is as follows :—

"Provided lastly : and it is hereby further agreed and declared and this demise is made upon the express condition that the said lessee his executors administrators and assigns shall not by virtue or in respect of this present demise be deemed to have acquired or to be entitled to neither shall he or they during the existence of the term hereby granted acquire or become entitled to by length of enjoyment prescription or by any other means whatsoever in respect of the premises hereby demised any right of air or light or other easement from or over or affecting any land or hereditaments belonging to Her Majesty not comprised in this demise but on the contrary it is agreed and declared and the said lessee doth hereby covenant and grant with and to Her Majesty her heirs and successors that it shall be lawful for Her Majesty her heirs and successors and for the said commissioner and commissioners and her his and their grantees lessees or tenants at all times hereafter to erect any new buildings of any height on any land belonging to Her Majesty not included in this demise and to raise to any height or alter any buildings now existing or to be hereafter erected on any such land as last aforesaid whether any such buildings or alterations as aforesaid may or may not prevent obstruct or affect the passage of air or light to the premises hereby demised or any part thereof or to any new building which may hereafter be erected on the land hereby demised."

This proviso has worked admirably : litigation has been prevented, the development of the estate has not been impeded by rapacious or cantankerous owners of dominant rights, the rents obtained have not been affected, and no one has been injured by its operation.

Thus in course of time, when existing terms have run out and the proviso will under the new leases have become applicable to the whole estate, the Crown estates in London will by the operation of that proviso, and the effect of the decisions of the High Court in Perry *v.* Eames, and in Wheaton *v.* Maple, be placed much in the same position as if under the law in force in Scotland, and be entirely outside the operation of Sect. III. of the Prescription Act.

The efficient municipal control of buildings generally—of the width of streets, of the height of buildings, of the open spaces in the rear of buildings, and the sanitary enactments as to provision of due access of light and air—should amply suffice to meet the requirements of the Roman law under the servitude of "altius non tollendi," and to protect all alike, in the interests of public health, from those encroachments by bold and unscrupulous speculators, who are now to some degree held in check by the operation of the existing law, and who certainly require to be more rigidly controlled than seems possible under the building laws at present in force.

Every endeavour must be made to dispel the prevailing idea that the wrongdoer and offender is the owner of the servient tenement, who, by building on his own land, takes away from the dominant tenement something for which the owner thereof has given no consideration, and has acquired in such a manner that the unhappy owner of the servient tenement has had no power of protecting himself from the acquisition of a right over his land, seriously affecting its value and controlling its user by him, to the advantage of a stranger who benefits without payment by the increased value of his land derived from the rights he has so acquired over his neighbour.

No mere palliation of the wrongs now inflicted on the servient owner for the advantage and benefit of the real evil doer and first aggressor, the dominant owner, should be attempted, but the aim should be to establish as a principle that no indefeasible right to light should be allowed to be gained by mere effluxion of time or otherwise than by an express contract between the owners of the dominant and servient tenements.

Mr. C. H. Brodie, on behalf of the practice standing committee, moved the following resolution :—

"That this meeting considers an alteration in the law of ancient lights to be urgently needed, and requests the Council to put itself into communication with the Council of the Surveyors' Institution without delay, with a view to the co-operation of that body in taking such steps as may be necessary to secure an amendment."

Professor T. Roger Smith seconded the resolution.

Messrs. E. T. Hall, T. Blashill, Delissa Joseph, E. W. Hudson, W. M. Fawcett, J. Douglass Mathews and Professor Kerr supported the motion.

The resolution was carried unanimously.

EDINBURGH ARCHITECTURAL ASSOCIATION.

At a meeting of this Association, held on the 5th inst, the following letters, written in acknowledgment of printed copies of the address delivered at the opening of the session by the president, Mr. Jas. Bruce, W S., F.S.A.Scot., were read by the hon. secretary, Mr. T. Fairnbairn:—

Sir John Stirling-Maxwell, M.P., wrote:—I read with great interest Mr. Bruce's address to the Architectural Association which you were so good as to send me some time ago. I agree with him that there are historic buildings in Scotland which deserve to be put into better order, though I think our generation has done a little better than its predecessors. It is, however, difficult to urge any action in such a matter on the Government except in particular instances or with a definite plan, and we must look to associations such as yours to guide us. Four sessions in the House of Commons have convinced me that general discussions are quite fruitless, and so are all attempts to urge a change of general policy on the public offices. It is some years, I think, since any of the historic monuments in Scotland have been destroyed or defaced for public purposes, and we can do no good by mourning now over old destructions such as that of the fine ceiling at Stirling. In France such a work might be reconstructed from the book which happily preserves its design, but our Government is never likely to undertake such reconstructions. For such work we must depend on private generosity. But there must be cases in which buildings in the occupation of the Crown or the Government could by the removal of partitions, additions and the like be restored to their original state and relieved of the uses to which they are now put. Such cases could, I think, be urged on the Government with hope of success, and it would be very useful if your Association could prepare a note of them.

Sir Lewis M'Iver, Bart., M P., wrote :—I have read with great interest the address delivered by Mr. James Bruce at the opening of the present session of your Association, and especially that part of it which deals with the ancient historical monuments of Scotland. I agree with every word he says on that subject, and I think it would be a fitting task for your Association to undertake to organise a crusade in favour of what he advocates. I think, if for once upon a non-controversial question like this you could bring all the Scottish members together without respect to party, Government could hardly disregard their combined demand. In the past the subject has been taken up sporadically, and by advocates who have neither the ear of the Government nor of the House. As a consequence the case has been to some extent discredited, and I think a carefully-worded memorial embodying Mr. Bruce's admirable statement and calling upon Government to put an end to this vandalism, and signed by all the members for Scotland, ought in such a matter to be irresistible.

Mr. W. H. Hole, R.S.A., read a paper on "The Relation of Mural Painting to Architecture." Mr. Hole complained of the modern neglect of mural painting in our public buildings. He insisted on the trinity of the arts—architecture, sculpture and painting—pointed to the service of colour to architecture, pleaded for its restoration and pointed to examples of the past as an incentive to modern emulation. Difficulties in the way of departure from custom were the apathy of the public towards art, the question of cost and the need of special training. These, he held, were not insurmountable, and the public must be shown that beauty is useful, and that in the end money wisely expended upon the embellishment of a building returned a most excellent interest.

On the 7th inst. the members of the Association visited Balvaird Castle and Edenshead. Mr. Thomas Ross, in the course of a description of the castle, said that the earliest mention he had seen of Balvaird, or Baleward as it was called, was in a "Gift by Henry of Freslay, lord of Fourgy, to the Abbot and Convent of Cambuskenneth, in return for the benefits and honours conferred by them on himself and his predecessors, and for the salvation of his soul, of the mill of Arringrosk," &c., dated July 27, 1295, in which he bound himself to compel his tenants to use the mill, and the tenants of Balvaird, unless they or their master could show that they were not bound to come to the mill. There were numerous other charters, confirmations and memoranda connected with the church of Arngask (Arringrosk) and the mill between the years 1281 and 1521. From one of these, of date 1513, it appeared that "Margaret Barclay, spouse of Sir Andrew Murrey, knight, dwelling on the lands of Balward, for her interest, as heir of Henry Freslay and lady of the lands of Arringrosk and Fourgy," had been cited to give reasons for the "unjust erection of the mill of Balward," to the prejudice of the Abbot and Convent of Cambuskenneth. The case was submitted to Gavin Dunbar, Archdeacon of St. Andrews, and he ordered the mill to be demolished. The case was appealed to the Pope, who appointed Hugh Spens, provost of St. Salvator College, and David Spens, canon of Moray, to decide the case, which went in favour of allowing the mill of Balvaird to stand—dated at St. Andrews, November 21, 1521. The Sir Andrew Murrey was either the second or third son of Sir William Murrey of Tullibardine, and about 1491 he married Margaret Barclay, and by them the Castle of Balvaird was built The party then drove to Edenshead, where, after the old house and the site of the Roman camp had been described by Mr. James Bruce, the members were provided with refreshment by the President. Mr. Ross was then thanked for acting as leader, and the Rev. P. M. Herford proposed a vote of thanks to Mr. and Mrs. Bruce for their hospitality.

ARCHÆOLOGICAL RESEARCH IN CRETE.

The Athens correspondent of the *Times* writes under date of April 3 :—The excavations recently instituted on the site of ancient Knossos, near Candia, under the joint direction of Mr. Arthur Evans and Mr. D. G. Hogarth, have already begun to furnish important results. On the hillside opposite the famous "Palace" site at Kephàla a Mycenæan building has been discovered by Mr. Hogarth, which, so far as it has been cleared, seems to consist of three halls, in two of which stand square pillars—a feature not hitherto apparent in structures of this period, except in a rude form at Phylakopi in Melos. The walls were faced with thin slabs of white gypsum, many of which remain in their places, and the floors are paved with similar slabs. The masonry presents novel features, among these being masons' marks in the "Cretan script." In what was apparently the tank of the house were found about forty vases, mostly capable of restoration, and all of the pre-Mycenæan period. They are of a painted ware only found hitherto in the Kamareri cave on Mount Ida. In the building itself have been found several gems and beads, obsidian tools and miscellaneous objects, besides hundreds of fragments of Mycenæan vases, more varied and elaborate in design than any yet discovered, even at Mycenæ. The building, which is perhaps a temple, contains no trace of anything Roman or Greek. Preliminary excavations at Kephàla were begun by Mr. Evans on March 27. The Cretan Government is rendering every assistance to the operations.

Sir Henry Bemrose, M.P., presided on the 2nd inst. over the twenty-second annual meeting of the Derbyshire Archæological Society, held at the Technical College, Derby. The annual report dealt with the proceedings of the Society during the past year. The report and balance sheet, a very satisfactory one, were adopted, on the motion of the chairman, who spoke of the great good done by the Society in stimulating interest in archæological work in the county. The officers were re-elected, Mr. W. Mallalieu consenting to undertake, *pro tem*, the duties of hon. secretary, Mr. Arthur Cox, being prevented by pressure of business from discharging the duties of that office for the present. Two interesting papers were read, one by Mr. Ward on the subject of "Roman Derbyshire," and the second by Mr. Arnold Bemrose on "The Evidence of Volcanic Action, Earth Movement and Ice-work in some Railway Cuttings near Ashbourne."

NOTES AND COMMENTS.

During a great many years Mr. G. de Paris has been exhibiting water-colour drawings of scenes in Sussex, which are well known to most visitors to Brighton. In the old churches especially he has taken great interest. He has now completed about 1,000 illustrations of them, including not only views of the buildings, but of ancient fonts, windows, porches and other details. As the studies were commenced in 1850, they embody the labour of half a century. As a rule, they all show the buildings before any restoration was attempted, and hence they have a unique value as records. The catalogue of the drawings occupies about fifty pages. So complete a collection should not be allowed to be dispersed, for it will have a permanent interest for Sussex people. It is without a rival, and few artists would have the enthusiasm, perseverance and self-sacrifice which are needed for the preparation of a similar series of views. Sussex is not enterprising, but with the aid of the influence of the members of the Archæological Society there ought to be no difficulty in securing the drawings which Mr. G. de Paris has prepared.

The volumes of the Proceedings of the South African Association of Engineers having its headquarters in Johannesburg never appeared so interesting as the latest we have received. It seems incredible that science could be studied amidst preparations for war. Indication of the indifference to ordinary business is suggested by the following note in the report :—"For some time past the Council have thought it wise to discontinue taking in the periodicals they had been in the habit of doing, as they found so little use was made of them by members." State affairs alone, we suppose, were considered when there was leisure. The difficulty of dealing with the Boer authorities is also evident from the statement :—"Some little time back the wisdom of an application to the Government of the South African Republic for a charter was mooted. It was then thought wise not to press the matter, but, as the Council now note that this privilege has been granted to the Society of Accountants, they feel that further steps should be taken to endeavour to secure a charter for this Association." The desired charter, we suppose, will eventually be granted by British authorities. The acknowledgment of the indebtedness of the Transvaal to the members is also remarkable, for the burgomaster said:—"What the Rand was to-day was due to the engineers. He wished the Society every success. He hoped that the engineers would prosper in the country, every one of them without distinction, and that their career would advance them, not only in the engineering profession, but also in their pockets, so that they might in time retire and live on the proceeds of their work. He hoped other societies would take example by the Association and work for the furtherance of science in general, because without science the country could not proceed. He trusted that they would get many more men of the stamp of those present, for the country would not progress without them. By their acquisition the country would become prosperous, and every man would be able to live and make his money." Yet in spite of all the burgomaster said the members were treated as Uitlanders, and as inferior to the ignorant peasants who were enriched by engineering science.

ILLUSTRATIONS.

WESTMINSTER ABBEY: NORTH SIDE, CONFESSOR'S TOMB. NORTH-EAST SIDE, CONFESSOR'S TOMB. THE ABBOT'S PEW.

In the thirteenth century, when the Confessor was decreed to be one of the saints, there was so much delight in England that, if ecclesiastical laws allowed, Westminster Abbey could easily have been made the abbey of St. Edward instead of St. Peter. But at least there was no impediment to the erection of the most magnificent shrine which the art of the time could produce. Accordingly one was erected in a position which was peculiar, for the site was between the high altar and the lady chapel. A mound of earth was formed for a base, in order that the shrine upon it might be visible to people in all parts of the Abbey. Only those who are able to judge from fragments can realise the splendour of the shrine in its pristine days. The late Professor Donaldson considered it must have been comparable with the shrines at Cologne and Aix-la-Chapelle. He said that with its spiral columns restored at each angle, its complete mosaics, niches filled with precious relics, gable ends flanked with pinnacles, and sloping roof enriched with panels, its altar in front and mosaic floor, it must have presented an imposing spectacle sufficient to awaken and exalt the fervour of the pious pilgrim. It is supposed that Abbot Ware, who was appointed in 1263, had visited Rome and brought back with him coloured stones, porphyry, mosaic and other materials for the shrine, as well as artists who were able to utilise them. The mosaic paviour was named Odoricus, and Peter of Rome executed the glass mosaics. The shrine was completed in 1269. The arched recesses were intended for the accommodation of invalids, who knelt in them in the hope of a cure through the Confessor's efficacy. The late Sir Gilbert Scott considered that the shrine was at times protected by a cover, and he found three holes immediately over it in the vaulting of the roof, through which, he believed, the cords passed by which the cover was raised. It should be remembered that the shrine was more than an ordinary structure of mosaics and porphyry. In Keepe's History (1680) the upper part of the feretory is described as having been covered with plates of the purest gold, set about with precious stones. Dart describes it as of gold and precious stones, adding that the workmanship exceeded the materials. In the library of Westminster Abbey there is an old Service Book of the time of Richard II., and the initial letter of the service for St. Edward's Day contains a rude representation of the monument, as a stone erection, with a very rich golden or gilt shrine above, set with precious stones. The form of the shrine is represented in the drawing as something like the roof of a cathedral without the lower walls. It has the aisle roof, the clerestory and the principal roof, and on the inclined surface corresponding with the aisle roof is a representation of the king in his robes, probably a work in enamel. The superstructure over the cornice we need not say belongs to a much later time. It was set up in the reign of James II., but probably was only intended as a model of some contemplated addition, which it was supposed would add to the dignity of the shrine. For modern visitors the most interesting object in the chapel is not the shrine, but the Coronation Chair, of which a view appeared last week. The mysterious stone which is under the seat is supposed to have been the pillow which supported Jacob's head at Bethel, and which was afterwards carried to Egypt, thence to Sicily and Spain and finally to Ireland. On the Hill of Tara it became "Lia Fail," or "Stone of Destiny," and was used to confirm the election of the Irish kings. If the chief who received most votes was worthy to rule the stone was dumb, but if unworthy there was a groan from it like thunder. Fergus, who founded the Scottish monarchy, brought it with him as a charm, and in A.D. 840 it was fixed at Scone, which became the Scottish Tara. Geologists now say it is simply a piece of Scottish sandstone, a conclusion which at least is not favourable to the traditions of its journeys. Edward I. was no geologist, and he prized the stone as an inestimable treasure. He sat on it when he was crowned King of the Scots, and he proposed to have it fixed in a bronze chair and placed in the Abbey. The chair was, however, made of wood, and a painter who was employed in the Abbey was entrusted with its decoration. Efforts were made at subsequent times to have it brought back from Westminster to Scotland, but London does not part with stones, no matter whether they are Jacob's pillows or Parthenon friezes. The companion chair was made by order of William III. The reredos or screen against which the chair is placed was surmounted by a sculptured frieze, which is now defaced. It contained fourteen subjects relating to the history of the Confessor, the last being "the dedication of Edward the Confessor's church."

ST. VERONICA.

THE ENTOMBMENT.

DESIGN FOR COTTAGES, PORT SUNLIGHT

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. Francis Bumpus,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

The Works of Henri and Alfred Gerente.

(Continued from page 227.)

TWO very interesting names in connection with this, the most important of the arts ancillary to architecture, are now presented to our notice, those of Henri and Alfred Gerente, of Paris, both of whom became so intimately associated with the great ecclesiological movement in this country as to render indefensible any omission of them from the history of stained-glass in England since the Gothic Revival.

Henri Gerente,[*] the elder and more accomplished of the brothers, died at the early age of thirty-five, before some of the most refined works which he had projected for our churches could reach their accomplishment, and just at the time when he seemed to have been raised up to achieve great things and to take the place of a leader in this branch of the great Gothic movement. Although he had paid more than one visit to this country since the revival of ecclesiastical architecture at the beginning of our Queen's reign, it was not until the year 1847 that Henri Gerente became acquainted with certain members of the Cambridge Camden Society, during their investigation of some modern stained-glass in the churches and college chapels of the sister University. On this occasion Gerente had been sent to Oxford by the Government of Louis Philippe to examine a very valuable collection of drawings of architectural and monumental remains which, after having been made for the French Crown, had, in consequence of the great Revolution, found its way into the Doucean collection. It was during this visit to England that, wishing to study and to take tracings of the thirteenth century glass in the windows of the corona at Canterbury, the authorities of that cathedral, to his great and just indignation, refused Gerente permission to exercise his pencil within its walls;[†] indeed, it was only in consequence of its being in question that he was to work for that church that he was, but a very short time before his death, enabled to obtain the sought-for permission.[‡]

On coming to make his tracings of the Canterbury glass, which there is every reason to believe is fully equal to the finest work at Chartres, Auxerre and Sens, both in design and execution,[*] he found it in such a state that the substance could be scraped off with the finger-nail to a considerable depth.

The assiduity with which Henri Gerente studied the mosaic glass in these four great Early Gothic piles bore fruit later on when he was entrusted by Dean Peacock with certain windows in his cathedral of Ely, whose restoration, under the guiding hand of Scott, had about this time (1847-48) begun to assume a tangible shape; indeed, the windows designed and executed by the brothers Gerente for that church completely threw into the shade the contemporaneous productions of our own glass painters. The windows fixed in Ely Cathedral during Henri Gerente's lifetime are the two Romanesque ones illustrating the histories of Joseph and Moses in the south transept. The first works of their accomplished artist executed in England, they are invested with a more than ordinary interest. Red being the dominant hue in the one and blue in the other, the two set off each other very happily, much of the excellence being attributable to the fact that their author was a true artist, not a mere archæologist or a restorer of painted glass nor an antiquator, but one who had laboured for the general effect as well as for the perfection of one detail or the other, and who always took into account the locality for which he was working.

Through the instrumentality of Beresford Hope—one of the earliest, ablest and most zealous pioneers of the Gothic movement—Gerente was entrusted with the vitreous decoration of the Cambridge Camden Society's "Model Church"—All Saints, Margaret Street, his design for the great west window being based upon a study of the celebrated Radix Jesse at the east end of the choir at Wells.[†]

The realisation of this scheme its accomplished projector did not live to witness; indeed, the last day Henri Gerente was ever seen in England was that on which he met Mr. Butterfield and others interested in the promotion of All Saints Church, to finally settle the scheme for the iconography of its painted windows.

The circumstances attendant upon the death of Henri Gerente, which occurred on August 6, 1849, were very sad.

The meeting alluded to above had taken place during the summer of that year, and among other architects and artists upon whom this accomplished man called during this, his last visit to our shores, was Sir Gilbert Scott. Gerente had just lost his father by the cholera, which had been very prevalent in France that year, and after watching him through his illness had been seized with such a panic that he fled precipitately to England, convinced that if he stayed in Paris he should die of it. A fortnight after this visit of Gerente to Scott, the French ecclesiologist, Père Martin,[‡] called upon the latter, and told him that the eminent glass painter had returned to Paris, had been immediately seized with the cholera and had died.

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[*] An Englishman on his mother's side, Henri Gerente was born in 1814, the same year as the great church architect so lately taken from us, and with whom in his most sumptuous creation he was, singularly enough, selected to collaborate. Entering the Ecole de Médicine, Gerente studied there for four years, but soon abandoned the practice of surgery for the more congenial pursuits of archæology and the fine arts. He started on his career as an artist in stained-glass in 1841, his cartoons, for which during the previous five years he had been assiduously collecting material, being executed at Choisy-le-Roi and elsewhere. Soon after this he produced windows of, for the time, more than ordinary excellence, and which subsequently found positions in Notre-Dame de la Couture at Le Mans, and the then recently-erected church of Bon-Secours, near Rouen. When the question of restoring the windows of the Sainte-Chapelle at Paris came under consideration, Henri Gerente was selected, after a severe competition, to carry out that important work. This was in 1847, and for the next two years study of the vitreous decoration of this gem of the age of St. Louis engrossed Gerente's almost undivided attention. Upon his death, a couple of years later, the work was placed in the hands of M. Lusson, the authorities completely ignoring the claims of the artist's brother, Alfred.

[†] Sir Gilbert Scott met with a similar piece of *brusquerie* from the Chapter of the same cathedral a few years earlier, when he wished to make some sketches of Archbishop Peckham's tomb for the Martyrs' Memorial at Oxford. "The Chapter of Canterbury," relates Sir Gilbert in his "Recollections," "had presented three fine blocks of Caen stone for the statues of the three bishops. I much desired to sketch carefully for the benefit of the monument the details of the noble tomb of Archbishop Peckham, and took occasion to stop at Canterbury for the purpose. The verger, however, soon told me that no sketching could be permitted without an order. The Dean (Bishop Bagot [of Oxford]) was away at his See. Canon Peel had gone out. Archdeacon Croft, whom I knew, was not to be found, and my last resource was Dr. Spry. I called at his house and sent in my name, with full particulars of my mission and its objects. The Reverend Doctor was at his luncheon. I heard the 'knives and forks rattling,' no 'sweet music to me,' and after more than one attempt was sent off with a peremptory refusal."

[‡] It had been arranged for Gerente to fill the large Romanesque triplet in the south aisle of the choir with his glass. Upon his death in 1849 the work was to have been executed by Mr. Chas. Gibbs from cartoons by Richard Carpenter, who, it may not be generally known, designed the quiet unobtrusive stone pulpit in the choir. In the sequel, however, these three great windows were placed in the hands of Wailes, and completed by him in 1855. Representing the Transfiguration, they are filled with small subjects treated in the mosaic manner from the lives of Moses, Our Lord and Elijah, their triptych-like character being admirably adapted to this species of treatment.

[*] Indeed, Gerente thought that he could prove the Canterbury windows to be by the very same artist as the unrivalled glass in the north choir aisle of Sens Cathedral, one of which illustrates the history of St. Thomas à Becket.

[†] Gerente's untiring exertions towards procuring a tracing of this celebrated window have already been recorded in these papers.

[‡] Le Père Martin, who will be best remembered by his *Monographie des Vitraux de la Cathédrale de Bourges* and the *Mélanges d'Archéologie*, both written in concert with Père Cahier, collaborated with the same ecclesiastic in a history and description of the equally fine stained-glass in St. Gatien at Tours. The last occasion on which Père Martin—who, by the way, frequently visited our shores and kept up a friendly intercourse with the architects and artists of the English Gothic Revival—appeared prominently before the architectural public was as one of the committee in the competition for building the church of Notre-Dame de la Treille at Lille. It will be remembered that in this competition, which was not restricted to one nationality, the first two prizes were awarded to Englishmen, Messrs. Clutton & Burges coming in first with a design based on Notre-Dame at Châlons-sur-Marne; and Mr. Street (whose more striking and original one lies before the writer) second. After long delay and much waste of time the successful competitors were most unfairly excluded from carrying out this church, the work being entrusted to a Lillois architect. Even now Notre-Dame de la Treille—whose locale can only be discovered by dint of much inquiry—is in a melancholy

I may note here an incident, personal to myself, of the cholera visitation in Paris of June 1849. I was in London at the time, and met one morning at a house at which I had my lodgings a gentleman who had arrived from Paris the night before. He told the lady of the house that he had left Paris suddenly because he had been obliged to close his establishment—his men would not remain. "I had no fear myself," he said, "my father died in my arms; I kissed him when he died." He spoke with strong emotion, and I remember the tears which were in the eyes of the lady to whom he talked. He seemed a man of cultivation and refinement; I did not learn his name. Six weeks afterwards I was in Paris and was asked by an American friend to go with him to meet M. Henri Gerente, the leading maker of stained-glass in Paris. My friend wished to give him an order for a window for the church of St. James the Less, Philadelphia. M. Gerente was of high reputation; he had just done important work at Ely Cathedral, and the Government of Louis Philippe had given over to him the restoration of the Sainte-Chapelle, especially the renewal of the great windows of that glorious gem of thirteenth-century Gothic. It was at the Sainte-Chapelle we were to meet him. We found him there. Behold, it was the gentleman with whom I had had my early morning meeting in London. He drew rapidly for us the design he proposed for the St. James the Less window—a series of medallions in which the figures would be very small, and thus a jewel-like radiance secured. We instantly approved. The east window at St. James the Less—as glorious a piece of colour as there is in America—stands, I trust, for all time to sustain our judgment. After some study of the lovely Sainte-Chapelle, under M. Gerente's guidance, he drove with us to Notre-Dame, where very important work was going on—the rebuilding of the south transept. Viollet-le-Duc had charge of this, the most eminent architect of France, perhaps of Europe. We were fortunate in finding him there. M. Gerente presented us to him, a man tall and of striking presence. When my friend and I drove away we left M. Gerente standing on the pavement in front of the great western tower. He waved his hand to us; I see him now as he smiled in bidding us adieu. A fortnight afterwards he died of cholera. Though I did not then know of it, it was about the time of my visit to Mrs. Coleridge. (Yarnall, "Wordsworth and the Coleridges.")

The English works contemplated by Henri Gerente, or which were in hand at the time of his death, were followed up with a fair amount of success by his brother Alfred, who had previously given his attention to sculpture. Among those which deserve especial mention were the series of windows executed for All Saints, Margaret Street, and placed in that church some time before its actual completion, about 1855. Unfortunately this glass did not realise the expectations that had been raised about it; indeed so greatly did it displease the architect tha not many years were suffered to elapse before it was—with the exception of that in the baptistery window—removed* and replaced, as recorded in a former number of these papers, by other work of the Gibbs-Butterfield fabrique, the same iconography being retained.

A large and important work designed and executed by the Gerentes about this time was the stained-glass now in the clerestory windows of the south transept of Oxford Cathedral. This glass, which in its present position is not offensive, was until thirty years ago in the large three-light Middle Pointed window closing the choir eastwards—a window which had been altered at the end of the seventeenth century from a five to a three-light one, in order to accommodate some painted-glass in the landscape style at that time prevalent. In 1870 this window was after some deliberation entirely removed. Gerente's work was then distributed in the position above named, and a pair of Romanesque lights with a wheel above, in all of which Messrs Clayton & Bell put painted-glass, substituted from the designs of Sir G. G. Scott, who had discovered sufficient traces of the old work for the pursuit of such treatment. Two of Henri Gerente's great works for the south transept of Ely Cathedral have already been mentioned. A third for the same position, illustrating the history of Abraham, had been designed by him, but his death intervening, its execution was entrusted to his brother. The companion window to this, setting forth the history of Jacob, was entirely Alfred Gerente's work. In the south aisle of the nave at Ely several windows were entrusted to these artists. The Creation window—the first one counting from the west—was, like the Abraham window in the south transept, a joint production, while the second and eighth, illustrating respectively the history of Noah and Samson, were due to Alfred alone.

Another commission which Alfred Gerente inherited from his brother Henri was the west window of St. Mary's, Stafford—a noble and impressive cruciform structure, neither cathedral nor parochial in character, but combining features of both, and remarkable as being one of the first churches placed for restoration in the hands of Sir G. G. Scott. The subject of this four-light Middle Pointed window, fixed about 1855, is a series of medallion groups of the life of Our Lord, treated with considerable breadth and simplicity and religiosity, without any straining after antiquation. The ground is a sparkling blue which has kept its tone well, not being confounded into a promiscuous purple in the presence of the red which is freely introduced into the dresses of the figures, nor made an area for the introduction of a mass of incongruous symbolism.

About the same time Alfred Gerente put the stained-glass we now see in the apse windows of St. Margaret's Church, Canterbury—another but somewhat later restoration of Scott's. To this little city church the architect gave a hexagonally apsidal termination, the original east end having been demolished to make a street, and the whole exterior disfigured, while the interior, whose arrangements were as bad as possible, had been shamefully misused. St. Margaret's emerged from the restorer's hands quite the model of a small cathedral city church, interesting, moreover, as being the one in which, until the time of Archbishop Manners Sutton, the Primate held his visitations. It should be remarked that each of these works of Gerente, in which blue preponderates, is an instance of the medallion treatment of stained-glass in a Middle Pointed window, but one not without precedent, occurring as it does in the chapter-house at York.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. G. H. Fellowes Prynne, president, in the chair.

Mr. J. A. Bonds was elected a member, and Messrs. A. Atkinson and J. P. Clark were reinstated members.

A vote of thanks was passed to Messrs. A. Waterhouse & Son for allowing members to visit the Prudential Assurance Company's new buildings on March 24.

The following is the House List for the ensuing session 1900-1:—President, Mr. W. H. Seth-Smith; vice-presidents, Messrs. W. A. Pite and R. Elsey-Smith.

Committee (ten to be elected):—Messrs. L. Ambler, A. Bolton, W. A. Forsyth, M. Garbutt, H. T. Hare, A. H. Hart, A. W. Hennings, F. G. F. Hooper, W. B. Hopkins, G. A. Lansdown, P. J. Marvin, H. P. G. Maule, A. B. Mitchell, G. H. Fellowes Prynne, W. H. Raffles, E. A. Richards, H. A. Satchell, E. Howley Sim, A. B. Thomas, R. H. Weymouth; hon. treasurer, Mr. H. W. Pratt; hon. librarian, Mr. A. S. Flower; hon. assistant librarians, Messrs. A. A. Carder and W. J. Osborne Smith; hon. secretaries, Messrs. G. B. Carvill, and R. S. Balfour.

Mr. Basil Champneys read a paper entitled:—

Hints on the Study and Planning of Collegiate Buildings.

In dealing with the subject of collegiate architecture, I do not propose to discuss at any considerable length its archæological aspect, but rather to dwell on the practical questions which are likely to present themselves to those who have to deal with collegiate buildings of the present day It is, however, desirable to say so much with regard to the past as may serve to make clear the ideal which the builders of old set before them, and to show that changes of custom have served

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state of incompletion, the lower part of the choir, based apparently to some extent on that of Tournai, and its substructure being the only portion that approaches anything like completion.

* This change in the vitreous decoration of All Saints, Margaret Street, having taken place before the writer's recollection, he can only point to the baptistery window as a sample of Gerente's work in that church, and borrow the following passage from a contemporary periodical devoted to ecclesiastical art as a description of the rest:—"The great west window in particular throws an overwhelming flood of green and gold light into the church. Of the design of M. Gerente's subjects—a Root of Jesse in the west window and single figures of saints in those of the aisles—we may say that it is archaic and conventional beyond description, and 'antiquation' has been adopted without stint. It is deeply to be regretted that such drawing should seem, from a variety of circumstances, to have the degree of sanction which its presence in the church extends to it. . . . To our mind M. Gerente's colouring is harmonious and beautiful, though perhaps over rich and luxuriant. The *motif* of the west window both in subject and colour is the Jesse window of Wells; and the French artist, we think, is not responsible for reproducing even too faithfully the faults, if they be faults, of the original which was proposed to him, with the consent of all parties concerned, for his guidance."

to modify the original standards and to present the problems of the present day under somewhat different conditions from those of an earlier age.

Everyone knows that at the time when the college buildings at the old universities were erected the students entered on their university career at a much earlier age than is customary at present. Also that the standard of expense was generally very much lower than it is in our own day. The same tendency which has influenced so many of our great public schools is apparent in the development of Oxford and Cambridge.

Starting as institutions for the education of all classes, and especially for the lower middle class, they have in a considerable degree become annexed by the more wealthy, and a public school or university education is now considered to be the privilege of the more wealthy, whereas formerly they were designed for the training of all who had sufficient ambition or enterprise, and offered every facility to those who were prepared to face poverty and hardship in the pursuit of mental training.

Another tendency which is apparent in the evolution of university buildings, but altogether dissociated from the conditions above mentioned, is that of centralisation. In Mediæval times large and important colleges were the exception, and small halls, each intended for the housing of a few students, were the rule. Some of the largest foundations, both at Oxford and Cambridge, have been formed by the absorption of a number of these smaller abodes, which usually have disappeared in the process. Our Oxford college, Worcester, is, generally speaking, a conglomerate of these smaller establishments, as its present conformation clearly shows.

While the change in the age of the students revolutionised the arrangement of rooms, the increased size and scope of the colleges afforded occasion for larger and more comprehensive schemes of planning, and made effective grouping of the buildings possible.

With regard to the former of these changes, the Mediæval arrangement was as follows :—A set of college rooms consisted of one fair-sized room, with two or more rooms, usually two, opening from it. The larger room was used as a dormitory, in which a few students and a master of arts slept, the master being placed there to keep order, while the smaller rooms were used as studies in the daytime. So long as the students were mere boys this arrangement was reasonable—not dissimilar to that at some of our public schools, where a "prefect" or "monitor" keeps order in a dormitory of younger boys. As the age of students increased, and as the class from which the students were drawn was simultaneously raised, this arrangement naturally gave way to the more modern one. The large room became the living or "keeping" room for a single student, and one of the smaller rooms or studies was the bedroom, another being used as a "scout's hole"—as at Oxford —"gyp-room"—as at Cambridge—a sort of pantry, larder and coal-cellar in one. In many colleges the division of the rooms remains in its original state, the only change made being their reassignment according to the new method. In other cases some structural modifications have been made, and as it very frequently happened that only the outer walls and the cross-walls which carried chimney-stacks were of masonry, the rest of the structure being mere partitions, such adaptations were easily made without any radical change.

The great increase in the size of colleges opened the way to the development of collegiate planning on an extensive scale, and suggested the type which nearly all existing colleges to some extent illustrate—the grouping of the buildings into one, two or more quadrangles of rather low buildings. In the original colleges there are never more than two floors and an attic, from among which the special and more important features are the chapel, the hall and the library.

The lodgings of the president, warden, principal, master, or whatever he may happen to be called, were usually included in the general grouping, and are seldom distinctive features in the older college buildings. In the present day the head of the college usually requires a more sumptuous abode, which must become an important item in contemporary college building; while the fact that many of the tutors and fellows are now married will also serve to complicate the future of collegiate grouping.

Besides the hall, chapel and library, it was usual to mark the main entrance of the college, often, too, the side entrances, or entrances to a further quadrangle, by towers—a reminiscence, no doubt, of defensive architecture, in which all approaches had to be specially guarded.

For the students'-rooms the general arrangement is almost invariable. A staircase entered from the quadrangle led to rooms on either side, and as there were three floors opened out six sets. This arrangement is usually adhered to in contemporary schemes, as I think with good reason. The alternative plan adopted by Mr. Butterfield at Keble College is to make the main block of rooms sufficiently wide to accommodate two sets of rooms in depth, with a central corridor from which the rooms open. I do not think, however, that this arrangement is likely to find general favour. It is not favourable to effective grouping, as the blocks of rooms are apt to look bulky and clumsy; and as regards economy, I made on one occasion the most careful comparative estimate of the two methods, and found that the old gave an equal amount of accommodation at considerably less cost. In this case, *stare super antiquis viis* seems to be the best policy on practical no less than on æsthetic grounds.

In the few cases in which a departure from the ancient type has been attempted the result appears to me to be most unsatisfactory, and completely destructive of collegiate character. At Keble College the architect's intention evidently was to keep the ordinary buildings entirely subordinate to the chapel, and as the chapel is very unusually large and lofty, this idea is not altogether obscured; but it would have been far more completely and satisfactorily developed had the ordinary rooms been planned upon the old-established system. The result seems to be no less subversive of collegiate effect if the ordinary buildings are of four instead of three storeys. The "new buildings" at New College, erected by Sir Gilbert Scott about 1876, seem to me to fail for this and for other reasons. At King's College a new group of buildings has in recent years been built by Mr. Bodley. Here again a fourth storey was insisted on by the college, and, needless to say, everything that was possible has been done to give them, in spite of this condition, a collegiate character. The fact that this endeavour, even in Mr. Bodley's hands, has not proved altogether successful, appears to me to be the best possible confirmation of my opinion that a fourth storey is necessarily unsuitable to such architecture; while the scheme, that of a three-sided quadrangle with the fourth side open to the line remains, and may long remain, incomplete in consequence of this unnecessary development of height. The scheme might have been completed for about the same cost as the present truncated instalment.

In both these instances the extra storey had been, I believe, forced upon the architect, and the motive for this dictation was no doubt in a large measure a desire for economy. My conviction is that there is no economy secured by piling up buildings to an unusual height. I have tested the comparative cost of buildings of two, three, or more storeys with the following result :—A building of two storeys is definitely more costly for the same accommodation than one of three; but four or more storeys are not more economical than three. Of course, where ground is limited in extent, or of very high value, a new factor is introduced; but in the case of college buildings this is rarely the case, and there is seldom any valid excuse for departing from the old type.

In fact, the old system of college planning, in my opinion, still holds its own, and needs but few modifications to bring it up to date. A few practical requirements consequent on the change of custom have to be met. For example, when a set of rooms was composed of a large dormitory and two smaller studies, it was rather advantageous than otherwise that the smaller rooms should be approached through the larger. This was conducive to quiet in the studies and caused no inconvenience. Now it is essential that both bedroom and cupboard, or "scout's hole" or "gyp-room," should be independently accessible, though there is some advantage in having a door between the sitting-room and bedroom, as it allows the bedroom to some extent to benefit by the sitting-room fire. Again, there is no need for the "scout's hole" or "gyp-room" to be as large as one of the old studies; it need be little more than a mere cupboard, and one of the most modern ideas is to provide for a group of rooms a kind of general "scout's hole" or pantry with a sink and gas stove.

These are the principal points in which a modern set of rooms differs from the ancient type, which on the whole has vindicated its claim to be applied to modern schemes as the best and most economical arrangement.

Before passing to other phases of collegiate architecture, it may be worth while to consider what was the most highly developed idea of a Mediæval college, and of this no better example could be selected than New College at Oxford, which in its ancient form showed a complete design carried out at one time. In order to realise Wykeham's idea it is necessary to remove in imagination certain later additions which have obstructed the original intention. The chief of these is the addition of a storey to the main quadrangle. This raises the buildings to the same level as the gateway tower which originally surmounted them, and also decreases the predominance of the chapel. William of Wykeham was a great Churchman, and his intention was to make the chapel the great feature of his main quadrangle. Its great height and scale still preserve its relative importance, though its superiority to the residential portion of the quadrangle is greatly hampered by the added storey. The dining-hall is built in continuation of the chapel, and originally the two were under a continuous roof. Sir G. Scott in his restoration raised the pitch of the chapel roof, divorcing it from the line of the original parapet, with which it now makes an exceedingly awkward angle. The floor of the dining-hall is raised several feet above the ground while the chapel floor is on the ground level, so that the internal height of the hall, though lofty, is much less than that of the chapel. The approach to the hall is by a staircase opening from the main quadrangle under a tower rising considerably above the hall and chapel. In the tower are a series of chambers, the purpose of which is not very obvious, but which have the advantage of being in all respects as Wykeham left them.

Opposite the main entrance to the college was the library, the conformation of which can still be traced, though it too has been modified by the addition of a storey and the modernisation of the windows. An archway passing beneath the library gives access to the garden quadrangle, which originally consisted of two short projections, one of which still retains its ancient timber roof, and was probably designed for its present purpose, that of a common-room for the Fellows.

To the west of the chapel, a position no doubt dictated by the conformation of the site, are the cloisters enclosing a garth, intended no doubt for burial-ground, and adjoining these at the north-east angle is the very simple but effective bell-tower, the great severity of which is no doubt due to its position as an outwork of the city wall.

The great predominance of the chapel over the adjoining buildings, and the presence of the cloister and the tower are somewhat exceptional features in college architecture and serve to emphasise the ecclesiastical intention of the founder. The same idea is manifest in a college of modern foundation, Keble, which, as a memorial to a well-known Churchman, was founded with a somewhat similar view. Other colleges which bear the impress of a specially ecclesiastical ideal are Christchurch and Magdalen at Oxford and King's at Cambridge. In the more ordinary type of college the chapel, hall, and in many cases the library, are salient features in the grouping, but their relative importance varies very considerably.

So far I have spoken of the ordinary type of college buildings as developed in the Middle Ages and adhered to in the sixteenth and seventeenth centuries. Modern civilisation has, however, given birth to new phases of collegiate life which involve certain modifications of the original character of the building, though the collegiate standard must still retain much of its influence.

The first and most important of these is the establishment of colleges for women, both at Oxford and Cambridge. It is clear that the life in these must necessarily be of a more domestic character than in colleges for men, and, if the style of architecture follows the requirement, the result will be something which may be called a "Domestic collegiate." Access to the several students' rooms can no longer be from staircases entered direct from the open air; the approaches must be properly enclosed and the passages warmed. In the instance I propose to describe, that of Newnham College, the deviation from the original type is greater, because the system of the college is that of subdivision into halls, each of which is on the whole complete in itself, the only features used equally by the entire college being the great hall and the library. Moreover, the scheme as it now stands has been developed piecemeal, has started from small beginnings and grown up step by step, each instalment of the group of buildings having been supposed at the time of its erection to be the last, until the pressure of applicants suggested a further extension. I can briefly indicate the stages by which this group of buildings has attained to its present scope.

Another building which also deviates from the original type on account of a change of purpose is Mansfield College, which contains all the features of a college without residence for students. Mansfield College is intended to be a centre of life for students of a particular religious denomination living in the colleges of the University, but assembling at Mansfield for services, lectures and for social converse. The only residents are the principal and a few tutors. Mansfield College therefore consists of a chapel, a hall, a common-room, with the requisite offices, bursar's and tutors' rooms and a few bedrooms and several lecture-rooms, a large library and a principal's residence. This scheme suggests a somewhat different system of grouping from that usual in colleges of the ordinary type, though at the same time it was for many reasons desirable that the group of buildings should as far as possible reflect the character of Oxford collegiate buildings. The drawings which I show will explain how I have endeavoured to meet this somewhat novel problem.

The President said the paper itself was an extremely valuable one, as it was on a subject about which not much was generally known, for it was seldom studied. There was no class of work in which the individuality of the architect came more into prominence, and in no case was this more noticeable than in Mr. Champneys's own collegiate buildings.

Mr. E W. Mountford proposed a vote of thanks, which was seconded by Mr. W. H. Seth-Smith and supported by Messrs. G. B. Carvill and H. P. G. Maule.

ENGLISH FURNITURE.*

(Concluded from last week.)

THE Great Exhibition of 1851, though showing some improvement here and there on the furniture produced in the thirties, was held before the new movement had had time to be of much effect, and to judge by the illustrations of it which are now accessible, the furniture and fittings shown had the common fault of nearly all exhibition pieces, of needless elaboration combined with poverty of design. Since the Gothic Revival died its death the history of furniture in England was for many years nothing but a series of ill-considered revivals of a miscellaneous past. It is cheering, however, to see that, having run through a cycle of copying and combining, our designers are beginning to invent by evolution from Classic models. To be successful this must be warily done, with a reverent eye on the past, and without attempting to avoid the commonplace by rushing into the vulgarity of the bizarre and eccentric

I do not mean that designers should allow themselves to be too much hampered by prescription and tradition, but that the examples of the best periods should always be kept in view, and the principles which underlie those examples firmly held.

If I have understood aright the teachings of the great art critic and teacher who has just passed away, I should say that our text and motto in furniture manufacture, as in every other of the arts of life, should be utility before all, but æsthetic utility. Furniture is not made primarily to be looked at but to be used. Better a Windsor chair with comfort than a *chaise à la Louis Quinze* which makes one's back ache Let every part have its meaning and fulfil its purpose. Doors that will open and shut, drawers that will work smoothly, handles that can be held—truisms if you will, but truisms not always recognised in practice. Utility, which means fitness, is in itself beauty if rightly understood, but man being born of woman is under an inherent necessity to decorate. The plainest piece of furniture devoted to the humblest office can properly receive ornament of some kind. A heavy kitchen table or dresser with a 2-inch top can be made to look lighter and more pleasing by a simple bead or chamfer without weakening the construction in appearance or reality, but decoration should never be purposely constructed. Form, by which I mean the general outline of a piece of furniture, should be always perfect in itself, and should primarily be independent of decoration, and if the cabinet, the table or the chair does not look well before the ornament is added, no ornament subsequently applied will correct the first error. Good outline and good proportion are both necessary to produce excellence in form, and in good proportion there should always be a dominant mass to which the other parts are subsidiary, and to which the eye constantly returns. It is needless to say how all great painters, architects and designers have kept this principle in view. The subsidiary parts again should constantly vary (not too sharply, for the more subtle the proportions the more pleasing), for the whole art of composing or putting together the several parts consists in varying well and intelligently. It is quite true that composition cannot be taught. Ruskin has well observed that one may as well endeavour to teach how to be witty; but this can be learned, that there are certain rules which have never been violated by the great masters of design, and these afford tests by which good work can be known and appreciated. Closely connected with the theory of good proportion and form are those principles of sound construction which have obtained in every good period of art, and which are not difficult to learn from the examples of the past. The proper main lines for good woodwork are the perpendicular and the horizontal. The curved line is only admissible as an adjunct to these, and should always be subordinate. An unornamented piece of furniture composed wholly of straight lines may be yet quite satisfactory to the eye, but one entirely composed of curves can never be so, though decorated with the utmost skill and refinement of detail. It is an axiom of good construction that whatever the material used it should be as far as possible homogeneous, and in the case of woodwork recourse should be had as little as possible to metal and glue. In a damp climate especially screws and iron straps and angle irons rust, and glue softens and decays. The tenon and mortise, the dovetail and the other real joints should be relied on Each surface should absolutely fit, so that the least possible film of glue be employed. Not only are the joints necessarily stronger, but the glue is more effectually protected from the air Too great a use is made by cabinet-makers, especially in chair frames, of the dowel, which is always a weak joint in comparison, though it is true that they are sometimes driven to its use by bad designs. I may also mention that dovetails are nearly always made with too great a slope, which weakens the cross strain without increasing the lateral strength of the joint. Pins through tenons should always be of wood.

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* A paper read by Mr. Lasenby Liberty before the Applied Section of the Society of Arts.

The abuse of mouldings is a fruitful source of failure to produce good woodwork. A surface of plain wood of large size must necessarily not only have a bare and uninteresting appearance, but be liable to warp and split under differences of heat and moisture, and for this defect the invention of the panel was an obvious remedy.

The square edge of the framing "stile," it was found, made too abrupt a transition with the panel, and the chamfer was the result. This grew afterwards into the moulding, by breaking the material from one level to the other, by a series of rounds and hollows, &c. In strictness, therefore, the level of the moulding should not rise above the stile. To rigidly observe a hard and fast rule of this kind, however, would be pedantic, and like many other general maxims can sometimes be violated with advantage, a projecting moulding when intelligently employed often giving vigour and character, especially in work on a large scale. When not kept within due bounds, however, the effect is often deplorable. Some Italian and French, and even German work exists, and has been copied of late years in this country, where every detail is overpowered by the moulding, which being of excessive width and height form panels bewildering in their number and the oddity of their shapes, until the absurdity reached a climax in certain joinery work produced a few years ago, in which the mouldings were fixed, crossing the panels saltire-wise from corner to corner. Mouldings employed on the shelf and cornice are in a different category, their use being of course to lighten the effect of a thick square edge. Even here, however, we often see the effect frittered away by excess of carving, and sometimes by a violation of the rule that every ogee curved member of the moulding, whether ogee or ovole, should have its angle to balance it. In work of the best schools mouldings are very slightly carved, if at all.

The art of the carver being nearly allied to that of the sculptor, and therefore standing on a higher plane than that of the other craftsmen connected with working in wood, has always had a tendency to transgress its due bounds and to assert itself in a manner incompatible with its proper sphere of mere decoration.

The desire of the artist to display his skill in fine modelling and cutting, and his knowledge of anatomy and of various styles of ornament, has constantly been productive of results which, though gratifying to himself and perhaps to his patrons at the time, have been fatal to the true artistic balance of effect in the piece of furniture so decorated. Some of the ornate cabinets, tables and chairs produced by the Italians during the past three centuries have more the appearance of strange and wonderful specimens of carving than the individual and useful pieces of furniture whose names they bear. The ornament is everything, the usefulness as furniture nothing, and this I take to be about the worst that can be said of any thing of which the chief object is utility.

The French and Germans, and, indeed, every nation, have also been sinners in this respect, though much less so than the Italians.

With regard to carving generally, and with the proviso that hardly any rule in art is so strict but that circumstances may sometimes justify its being broken, I should say that the laws which govern it in its relation to furniture are that high relief should be reserved for portions already in relief from the main mass, such as columns, pilasters, table legs, &c., and that even here the ornament should never interfere with the proper contour and main outline, and that panels and all flat surfaces, when carved, should be only in very low relief. If it be desired to display a fine piece of work in high relief in a pediment or a panel, then the latter should be sunk and should be of large dimensions, so that the height of the carving be counterbalanced by the breadth of the work. I have no need to enlarge on that on which everyone is now agreed, viz. on the studious avoidance of such abominations as were produced fifty years ago. A sideboard supported by laboriously-carved spread eagles, or a table with carved dolphins for legs, like the notorious dumb waiters in Trafalgar Square; but I would point out that a small panel with an exquisitely carved group projecting far beyond the level of the stile frame, such as we see in really fine work of the Italian Renaissance, shows the necessity of keeping the artist workman strictly to heel, even in a good period of art.

A good deal of what I have just said is true of marquetry, though I am not one of those who regard this as illegitimate decoration. In a sense, of course, it is a sham, but, at the same time, it proclaims itself so frankly to be what it is that no one is deceived, and probably nobody ever thought he was looking at a mosaic of variously coloured woods cut and pieced together in the solid. Still, inlay of all kinds ought to be strictly kept within bounds. Like carving, it is a good servant but a bad master. The enthusiasm of the specialist is proverbial. There is nothing like leather in the opinion of the cobbler, and there seems to be an inherent tendency in every trade and craft to assert itself unduly. We can see what the inlay cutter is capable of when allowed to get out of hand by examining some of the old marquetry of the seventeenth and eighteenth centuries, where the cabinet, bedstead, chest of drawers, clock case and the like appear to have been made for the express purpose of showing what he could do, and certainly he did some wonderful and terrible things. Good marquetry is subdued in tone and without violent contrasts in colour, always conventional, or at the most semi-conventional in character, and, above all, never attempts to suggest a picture. With some hesitation I may also, perhaps, be allowed to add that it is like the garlic in a salad—a little goes a long way. In anything I have said by way of criticism I must not be understood as decrying the arts of the carver and inlayer *per se*. The celebrated carved group at Chatsworth of the woodcock, lace handkerchief, &c., is in order as a *tour de force* and as a more or less satisfactory specimen of wood sculpture, though personally I would prefer the work of the unknown carver in the Boulak Museum at Cairo, and an elaborately inlaid wood panel framed as a picture would be at least a legitimate method of displaying the craftsman's skill; but I protest against the use of such work as decoration for a piece of furniture.

Perhaps in this connection I may say a few words on the vexed question of machine-made ornament. The sweeping denunciations of it as an accursed thing which we are accustomed so often to hear, are, it seems to me, uncalled for and unreasonable. It is neither practicable nor desirable for us to go back to the fifteenth century, and the cry that all decoration not executed by hand is no decoration at all is another illustration of the regrettable fact that the average man, when caught by a taking phrase, seldom or never stops to consider whether or not a proposition which on the face of it is sound enough, covers all the ground. It is overlooked that a strict rule of this kind would debar us from the use of all inexpensive paper-hangings and textile fabrics, and that there are, indeed, few minor art productions which would be accessible to any but the wealthy, without the aid of labour-saving appliances of some sort. It is true that such a rule would be more applicable to ornament as applied to furniture than to most other art developments, though, even here, it should be confined to the production of ornamental carving of a high order, and which can only be satisfactorily executed by hand. When a continuous reproduction of egg and dart or other simple ornament on a moulding is necessary to the effect, and the high cost of carving by hand is prohibitive, it is surely preferable that it should be cut by the carving machine than be omitted altogether. I need hardly say that I am quite in agreement with those who denounce such false work as wood embossed in imitation of more ambitious carving by pressure, or repoussé metal produced by the stamping machine; but these stand in a different position from ornament which is merely intended to vary a succession of straight lines and satisfy the eye without attracting it. In short, I consider that machinery can be satisfactorily employed in producing ornament of the humbler kind, and which is intended to be felt rather than observed.

Now a word on the use of varnish. For the protection of wood from the effects of damp and dust, and, still more, for bringing out the beauty and colour of the grain, varnishes of different kinds have been in use from very early times. For heavy furniture and fitments of oak, teak, &c., the old mixture of turpentine and wax is still unrivalled, while for fine cabinet work the more recently invented solution of shellac in spirit is used. This latter is one of those things which requires the most skilful manipulation, as when employed in excess or without the utmost refinement and delicacy of finish, it easily becomes the acme of vulgarity. This naturally introduces the question of stain. Some purists have spoken and written very warmly on the subject, and have decried the use of stain altogether. "Rub the wood with a little oil, and so leave it to mellow by time," says in effect one authority. "It is a sham," says another, "to try to make new oak look as if it were antique." Now I submit that we do not buy furniture, or have wood fittings put in our houses exclusively, or even primarily, for our heirs. Life is short, and, as a rule, many years elapse before wood puts on its final complexion. I submit, too, that in staining our oak brown and in deepening the natural colour of our mahogany and satinwood, we are not necessarily attempting to make it look as if it were old, but only investing it with the richer tone of colour, which, without stain, we might never live to see, and to which even it might never attain. Of course, stain can be abused. To employ it to imitate inlay is the sham of a sham, and to invest wood with a colour which does not and never can belong to it in the natural order of things is also questionable, although I would, perhaps, make an exception in favour of some shades (green, for instance), which, when intelligently employed, with proper accessories in the way of decorative surroundings, is capable of very satisfactory results, *i.e* when the furniture is executed mainly as fitments, as part of the architectural features and joinery of the room. Painted and japanned furniture in colour is rarely successful in Western work, since the pigment never attains to sufficient depth and richness, and the general consensus of opinion, I think rightly, has decided that a tint of cream, slightly varying according to surroundings, is the only colour which can be satisfactorily applied to movable furniture, or to fitments *en suite* with it. It certainly possesses the advantage of lightness and elegance of effect, and harmonises with practically any scheme of colour.

The relation of metal-work to furniture is one of the most fascinating branches of the subject, partly because of the great interest of the work itself, and partly because in all ages the metal mountings have afforded a very complete test of the worthiness or otherwise of the art school to which the furniture has belonged. The characteristics of good metal-work in this connection are, first, that it should fulfil a distinct purpose which could not be fulfilled by the wood alone; second, that it shows such purpose plainly, and, third, that it should be good in itself. All good metal-work as applied to furniture and fitments does fulfil these conditions. The lock-plates, keys, handles, hinges, bolts, &c., of Mediæval work are almost always excellent, and the same with some qualification may be said of that of the best period of the Renaissance. The debased French styles of the eighteenth century degraded metal to the purpose of ornament pure and simple, and this not sparingly but to an absurdly excessive degree, while every bit which was of use and answered any purpose was studiously kept out of sight. Hinges were made as small as possible and carefully hidden, lock plates were whittled down to an escutcheon to cover the keyhole, handles were often omitted altogether, the key being the only means of pulling open the door or drawer, and when they were used they were made to look as unlike handles as possible. Some of the ormolu mounted pieces of furniture of this period are models of perverted ingenuity and skill. In the present century, up to the Gothic revival, art metal-work could scarcely be said to exist in England, but then the art of the smith once more came into fashion, and there has been during the past fifty years a steady and continuous improvement of design until an excellence has been reached equal, if not superior, to any in past times. Once more, however, a careful observer is able to notice a tendency to over-elaboration, and we may see a small door with hinges and lock-plate, large and elaborate out of all proportion to what is necessary, and drawer handle-plates almost concealing the wood It is not always perceived that what would be perfectly suitable for strengthening a set of old Flemish window shutters, or a Mediæval treasure chest, is out of place on a modern sideboard. The smith may be allowed to run to the end of his tether in a gate, a grille, a fender, or a pair of andirons; but in the making of a piece of furniture he must learn that his work is to be subordinate to that of the joiner or the cabinet-maker.

Time will not permit of my entering at length into the subject of fabrics, which, even within the comparatively limited scope of their application to furniture, might well fill a paper; but apart from the ease and comfort which the art of the upholsterer contributes to our lives, I would mention their great value, from an æsthetic point of view, for effects of colour and to soften outlines. The general improvement in taste, which has characterised the art history of the past thirty years, has in no case been better exemplified than in the design and colouring of the textiles of the present day, as will be readily admitted by those who are old enough to remember the repps, poplins, Union damasks and other furnishing materials of a generation ago. There has been also a corresponding improvement in the handling of our furniture fabrics, and in the design of upholsterers' trimmings.

A most important subject, and one I should much like to have had time to emphasise, is that regarding the relative balance which should be maintained as between furniture and mural decoration and hangings; but I must content myself with saying that as a rule furniture should stand out in contrast from mural treatment. That is to say, if the furniture is elaborate in design and full of broken colours, then walls should be in a monotone colouring and unbroken by any pronounced design On the contrary, if the walls are rich in design and colouring the furniture should be severe in form and of a monotone colour. Further, this holds good of an individual piece of furniture. I mean that elaborate detail and rich colour in any portion of it should be counterbalanced by comparative plainness elsewhere. I need not say that when I speak of contrast I do not imply contrast of style, for that of course should be homogeneous, or that such contrast should necessarily be strong, for harmonious treatment is generally far more satisfactory.

And now I will bring these desultory comments to a conclusion with a few remarks on what I think are the correct lines which should be followed by our designers in the future.

Obviously some common standard of excellence should be first recognised, not to be copied or even perhaps closely imitated, but for what I would call the motifs for work in furniture. Our best periods, in fact the only periods when England developed a national art in the household, were those of the first half of the seventeenth and the latter half of the eighteenth centuries. Always keeping in view the character of the English climate and the tastes and habits of the people, I consider the Jacobean combines in itself all the characteristics of a good style, and from its dignity and solidity is especially applicable to what may be called the masculine side of furnishing—the dining-room, hall and library. At its best in oak, it can be worked successfully in walnut and teak, and is susceptible of the greatest variation in its treatment, from the richness and elaboration suited to the state apartments of a palace to the degree of plainness and severity which accords with the surroundings of a farmhouse or cottage. When enriched with carving and good marquetry and used in conjunction with gilded leathers or fine tapestry and handsome ceiling plaster, it is in the highest degree sumptuous and magnificent, and at the same time in a simple form, with that touch of the archaic which gives character and originality, it lends itself with equal facility to use with the humble wallpaper. The furniture and fitments of this period at Holland House, at Knole and in the South Kensington Museum are models from which it would be possible to form a truly national style in the future, not, as I have said before, by copying, but by a due observance of the principles underlying both the design and construction of the works in question. Allowing the widest latitude to individual taste—for I hold that good taste can be found equally among those whose predilections are in favour of richness and abundant ornament and those who incline to the simple and severe—the examples I am recommending to be studied will furnish us with rules both for keeping the highly ornate within proper limits as well as for softening harshness and austerity.

The other period of which I have spoken, viz. that of Adams decoration and Hepplewhite and Sheraton furniture, should be studied by designers for motifs of what I would call the feminine side of furnishing—the drawing-room and the boudoir, and its characteristics are lightness, elegance and grace.

Hepplewhite may be considered a connecting link between Chippendale and Sheraton, his chairs, &c., being more refined than those of the older master, though not wholly free from their blemishes. Sheraton was an exceedingly able man, and was one of the best draughtsmen of his day, and though himself a prolific manufacturer, very large quantities of furniture were made by contemporary cabinet-makers from his designs. Working mainly in mahogany and satinwood, his cabinets, chairs, tables, &c., though unequal in merit even in his best period (say from 1790 to 1800), are for the most part worthy of praise. The influence of the spurious Classic of the Empire period in France caused later on a very remarkable falling off in his designs, some of which, produced in the early part of the century, are about as bad as they can be. During the time in which he continued under the influence of the Adams, however, he aimed, like them, at severe refinement rather than massiveness and fanciful ornament, and consequently made but slight use of carving. The cabriole chair and table legs of Chippendale were discarded altogether, and the heavy square legs of the same maker he tapered with rare elegance of effect. The ornament was almost confined to inlay, and this is found almost invariably in keeping with the general design and aim of the furniture, as even in his most elaborate work it is subordinate to the main effect, while in the simpler pieces, by the judicious use of lines only, it is made to emphasise the construction. The details of the decoration are simple and perhaps a little wanting in verve, but are admirably drawn, and are never stereotyped, each husk, loop and festoon being varied according to the shape and size of the space to be be covered.

The contemporary style of this period in France, the Louis Seize, was a vast improvement on the Rococo of the preceding reign, inasmuch as it conformed to some of the more reasonable and obvious rules of construction, and the decoration, though nearly always overdone and often false in its application, had an elegance and comparative severity very refreshing after what had gone before. When it is desired therefore to produce furniture for the drawing-room and boudoir of a distinctly ornate character, the Louise Seize can be studied with profit by the designer. I would limit such study strictly to the ornament, as the general lines and construction of the Sheraton style can hardly be improved upon; indeed furniture can be made quite unmistakably Sheraton in character without any ornament whatever.

According as our designers therefore aim at dignity and massiveness, or lightness and grace, let them keep in view the work of these our best periods. Both styles are in reality allied, being founded on the Classic; both are capable of much modification while retaining their distinctive characteristics; both are true and correct in construction; and, lastly, both are English—in the sense that, though evolved from foreign models, they were adapted not crudely by copying, but intelligently, after being modified by national feeling and taste. It is surely not too much to hope that in course of time we shall become discontented with remaining in leading strings, and with ringing the changes on the styles of the past, some of which are utterly alien to our national sympathies and needs, and that the influence of these two allied forms of art will cause the opening up of future artistic possibilities at present unrealised.

If I may believe that, by anything I have said to-night I have helped forward this consummation, I shall feel grateful to my colleagues on the committee of the Applied Art Section who over-persuaded me to prepare this paper.

TESSERÆ.

The Parvise.

THE word "parvise," or paradise, properly only applies to an open court adjoining a church, and surrounded by cloisters; but in olden times a room in a private house was sometimes called a paradise. Leland mentions "a little studying chamber caullid paradise" at Leckingfield, Yorkshire. The parvise is to be found over church porches in all parts of England. It is more common in Early English than in Norman architecture, and very frequently to be found in churches of the Decorated and Perpendicular periods. Probably the largest parvise in England is at Bishop's Cleeve, near Cheltenham. There are interesting specimens at Bridport, Bishop's Auckland, Ampthill, Finedon, Cirencester, Grantham, Martley, Fotheringay, Sherborne, St. Mary Redcliffe, Bristol, Stanwick, Outwell and St. Peter's-in-the-East, Oxford. In a few instances there are two parvises over the north and south porches, as at Wellingborough. The parvise was also called the priest's chamber, and may have been the residence of one or more of the ordinary priests of the church, or perhaps only a study for them, or it may have been occupied by an anchorite or hermit or by a chantry priest. Rooms for these several purposes are also not unfrequently to be found over the vestry, as at Cropredy, near Banbury, and at Staindrop, Durham. At Hawkhurst, Kent, the porch chamber is called the treasury. At St. Mary Redcliffe, Bristol, the room over the grand north porch, in which are the remains of the chests in which Chatterton professed to find the manuscripts attributed to Rowley, was at one time known as the treasury house. In Brandon's "Gothic Architecture" it is said:—"The chamber over the porch was generally used for the keeping of books and records belonging to the church. Such an appendage was added to many churches in the fourteenth and fifteenth centuries, and some of these old libraries still remain with their books fastened to shelves or desks by small chains." Over the porch at Finedon is a parvise, in which is contained a valuable library of about 1,000 volumes, placed there by Sir John English Dolben. At St. Peter's-in-the-East, Oxford, and many other places, are similar libraries.

Progress of Art.

When a nation's art or industry has suffered change it has come, not from the unassisted mind of the nation itself, but from some altogether different influence of another race, conquering or civilising as the case may be, and bringing with them their own peculiar style of art to mix with or supersede the other. We know no more of architecture in its beginning than we know of the origin of language, nor of any of the higher branches of intellectual knowledge, which seem to have been favoured gifts from a higher Power than ours to some favoured nations. But we do know that, so far from art having gradually emerged as a matter of ordinary progress from the necessities of mankind, it is quite certain that it never has appeared at any time, except amongst those nations who have derived it direct from the banks of the Nile, the Euphrates or the Ganges; and that these three came from the same source can scarcely be denied. Wherever insulated from contact with these favoured nations, no power of mind or body has been able to raise up to a state very much beyond the savage any other race whatever. One exception may be cited, viz. the civilisation of Mexico and Peru. But we are utterly ignorant of the conquering or civilising races there, and the whole is at present an utter enigma. The arts rose, too, where they did rise, to perfection, not by a steady gradual progress, but by a series of waves, as it were—suddenly rising to the summit, slowly curling over, and then, first hurriedly and then with more gradual course, sweeping over the sands of time, sometimes to be there altogether lost, and sometimes to be urged on again by some new force, but never from the same direction.

Water Supply of Roman Villas.

It was generally considered doubtful whether the Romans possessed "fontes salientes," or jets-d'eau, at all, although in reality the atrium, or open court, of almost every Roman citizen in southern Italy could boast of one or more, and no wonder, for most of the Roman towns having been supplied with water by means of aqueducts, whence it was conducted along their principal streets, anyone who wished for the luxury of a jet-d'eau within his premises had only to apply to the town "librator" for leave to join a private pipe on to the public one and to pay for this accommodation in proportion to the diameter of his pipe, in order to possess himself of so agreeable an appendage to his mansion. But the knowledge and skill of the Romans went further; they not only were fully aware that water would always find its own level—Pliny saying plainly enough, when speaking of water, "subit altitudinem exortus sui," and a Roman leaden pipe having been discovered at Arles, that extended under the Rhone, for the purpose of conveying pure water from one bank to the other—but they could force water up from a lower to a higher level by mechanical power. The Romans used an engine called "Ctesibica machina," because it was invented by Ctesibius, the son of a barber of Alexandria, who lived B.C. 135. This was greatly improved by Heron, the pupil of Ctesibius, who has left a description of it. Vitruvius and Pliny also minutely describe this engine, whence we gather that it was just like a modern fire-engine pump, and could force water up a pipe of almost any length required, but happily one of these still exists, found at Castrum Novum, near Civita Veechia, during the last century, which had been used for the purpose of pumping up water to the public baths of that town from below during the palmy days of Rome.

Italian Brickwork.

Italian bricks are by no means of very fine quality save where moulded bricks are used, but the Italian architects differed from others in the extent to which they made use of stone intermixed with the brickwork of their buildings. The arrangement refers not only to the occasional introduction of stone voussoirs in the arches, but to the commonly recurring system of horizontal courses of stone alternating with courses of brick in the walling. Sometimes this is regularly carried all over a wall, sometimes only a course of stone is introduced here and there to mark some line or feature which appeared to require considerable emphasis. Sometimes again, as in the Romanesque apses of San Fermo Maggiore, Verona, a single course of brick is introduced between all the courses of stone, and the effect of this is delicate and good. The same church contains many examples of very ingenious mixture of stone and brick, and, on the whole, few examples are altogether more valuable. Sometimes we find, as in a wall in San Stefano, Bologna, the wall diapered regularly in brick. Here the diaper is made with thin red bricks arranged in diagonal lines all over its surface, the squares contained within them being all of yellow brick. This kind of work is never pleasant save for the filling in of a spandrel, or some such place where no strength is required. It gives, of course, the impression of being a veil to the wall and not the wall itself.

Old English Cottages.

The cottages that remain to us of the sixteenth and seventeenth centuries have often a most pleasing character, contrasting painfully with the ordinary cottage of the present day. Notwithstanding the simplicity of design and the apparent absence of all effort at "effect," there is yet a play and variety of form and breadth of light and shadow which will produce, by chance as it were, a most picturesque object; and this desirable result will be often found to be brought about without a single merely ornamental adjunct. When these humble yet pleasing structures happen to occur beside a cottage of the ordinary type of the present day, it is impossible not to admit that in matters of taste, at all events, the world makes very slow progress, if it be not retrograde. The utilitarian spirit seems to have completely extinguished the feeling that prompted the cottage builders of former times; so extinguished, indeed, that the rash man that would venture to insinuate a doubt whether we might not derive valuable lessons from these very unpretending works of our simple forefathers would probably meet with far more derision than sympathy.

Early Bells.

The very earliest bells were probably mere sheets of metal curled into a circular shape and rivetted together at their junction, the top being flattened in. These were struck on the outside by a hammer, having no connection with the bell itself. This, of course, produced no very exquisite tone. Once started, bells soon developed into shape and size somewhat analogous to those now in use. The art of working and fusing metals together was a very early invention, and the sister one of melting and casting not long in following. We know that both tin and copper ore were worked in Britain during the Roman occupation of the island, probably still earlier in more civilised Europe. There is no reasonable doubt that a bell, or even bells, in important places formed a portion of the furniture of every church before the Norman Conquest. Judging from the vast size of Norman towers, it is probable that church bells had at that time reached their largest dimensions in this country, and also attained a perfection not since surpassed. The fact of no bells of ascertained Norman date remaining at the present day, when we consider the hundred and one different accidents to which such an instrument is subject, is no proof in the case whatever. Considering the bell as an instrument of percussion, it is only a cause of wonder that so many examples even of the thirteenth, fourteenth and fifteenth centuries have come down to us uninjured. Then, again, there are other causes for change besides breakage. Fashions as to shape and size and number changed also, just as churches themselves were always more or less under alteration and supposed improvement.

Saxon Dwellings.

Notwithstanding the magnificence of the Roman residences, it is certain that during the sway of the Saxons in England art and civilisation retrograded step by step, until the characteristics of domestic habitations assumed the *ne plus ultra* of primitive rudeness; every approach to luxury and refinement was for the time discarded, and the primary law of necessity would seem to have reigned supreme. From all that may be gathered on the subject, the dwellings of the majority of the people were mere huts of the rudest construction, and although the material suitable for constructive purposes existed in abundance, nevertheless, whether from indifference or want of knowledge, the natural productions—stone, flint, chalk and clay—remained unheeded, and were as yet alike valueless and unprofitable, the abodes of our Saxon ancestors being merely of wood framing, with the interstices filled with mud, and the roofs rudely covered with thatch, reeds or shingle, while the interior consisted of but one room, wherein the smoke from the fire, which was kindled on the floor or within a space hollowed out for it, escaped as it best could by door or aperture in the roof, or through fissures in the walls, the "innovation" of chimneys being as yet unknown, the windows if any being mere openings left in the walls to admit air, and the manufacture of flat glass for glazing purposes in domestic buildings an uninvented process. Such were the dwellings of the majority of the people, the houses of the thanes, though probably of considerable extent, consisting only of a hall used by day for meals and at night as a sleeping apartment for the followers, bondmen and servants. In some instances it would seem that the master was provided with an additional chamber, little superior, however, as regarded comfort and extent of accommodation to that of his retainers. Even in the largest and most important towns, where, if at all, some degree of refinement and superiority might have been expected to exist, it was just the same. London itself, and Winchester, then a place of opulence and importance, were as indifferently provided, and in the case of the Metropolis we find that, even down to Stephen's reign, the streets consisted of houses of wood covered with thatch. Among the artificers, the services of the smith and carpenter were most in request, all architectural features, to say nothing of the decorative art, being entirely unknown, or, if attempted at all, limited to religious edifices; for if we are to place any reliance on the traditions of so remote an era, the domestic buildings in Alfred's time were so ill-constructed and the joinery of so rude a kind that the king himself was necessitated to use a lantern to prevent the light in his chamber from being extinguished by the currents of air that entered through the crevices in his palace. No less primitive were the internal appointments. The furniture consisted of massive benches, stools, tables and chests, and the sleeping couches resembled the poorest of those known in our own times as stump bedsteads, the bedding and pillows were merely straw, and the covering chiefly the skins of animals.

The Doric Abacus.

One principle much taken to heart by the architects of the Doric temples of Greece proper was to adopt a breadth for the abacus of the capital equal to one-fifth of the height of the column, or else an aliquot part of the breadth of the temple on the top step, or lastly accommodating both conditions. A dimension for this part, however, cannot be adopted lightly, for it decides the diameter of the echinus at its greatest swell, and this must be relative to the general proportions required for the column. At Bassæ the abacus of the front is one-fifth of the height of the column, but not commensurable with the top step; in the Theseum it is one-fifth of the height of the column, and also one-twelfth of the top step; in the Parthenon the ordinary abacus of the east front is one-fifteenth of the top step, but not commensurable with the height of the column; the abacus of an angle column, however, which is broader than the ordinary, is equal in breadth to one-fifth of the height of the column, while on the other hand it is, of course, no aliquot of the top step.

Admiration of Scenery Fatal to Art.

It requires a stoicism, perhaps an ungrateful and sinful one, to busy the mind in a comparatively sordid turning to account of the glorious exhibitions of external nature, instead of passively and devotionally drinking in, for the heart's refreshment, those floods of effulgence and colour and worlds of form presented by our sky alone. It often seems that the ardent admirer of nature never can become a painter, if only from the difficulty of first tearing from the mind its deep enjoyment, and then forcing it into a state in which only it may be said it can be capable of profitable study. This is undeniably the case if it be true that the mind, no more than the body, can rest upon two points at the same instant of time. You may alternate the moments of study and enjoyment, in one of which you admire an object and in the other dissect it; in one of which you bow down prostrate before an unapproachable excellence, while in another you rise superior to the pleasure, erect in sturdy determination of purpose to achieve what amount of imitation may be possible in a signally limited material. It is useless to discuss whether the higher and all-absorbing beauties or the lower deformities or more ordinary appearances of nature be the more difficult of imitation; but it is notoriously the case that the imitations of the latter order have been carried far beyond the first as regards truth.

Ancient Contract Deeds.

The agreement between the commissioners of Richard, Duke of York, and W. Horwood, freemason, for the building of the chapel in the college of Fotheringhay, given by Dugdale, details with minuteness the ground-plan and architectural ornaments of that very beautiful structure. Many terms occur, the original application of which can now be supplied by conjecture only. In the Itinerary of William of Worcester, published by Nasmith, there is an account of the building of two most beautiful churches in Bristol, those of St. Mary Redcliffe and St. Stephen, in which the minute particles of ornamental masonry are enumerated in terms too obsolete, and perhaps provincial, to be developed by any of the glossaries. Leland, whose Itinerary was written in the next century, is not always intelligible in his details of architecture. It is vain to consult Du Cange for terms of French derivation, which occur in the indenture concerning the college of Fotheringhay above mentioned.

Correspondence

Leslie & Co., Limited, v. The Managers of the Metropolitan Asylums District.

Sir,—Our attention has been called to the report in your issue of the 6th inst. *re* the above case, in which a statement appears to the effect that we had been guilty of delay in executing our part of the work. This statement is untrue, as we should have been able to prove had we been called as witnesses on the subpœna served on us by the defendants. The statement, if left uncontradicted, is calculated to do us damage, and we therefore trust to your sense of fairness to insert this letter in your next issue.—Yours faithfully,

Z. D. Berry & Sons.

The Albion Works,
Regency Street, Westminster, London, S.W.:
April 10, 1900.

GENERAL.

The Dean of Westminster has consented that a memorial to the late Mr. Ruskin shall be placed in the Abbey. A site has been chosen, and a small committee has been formed to carry out all the necessary arrangements.

A Crayon Drawing by Millet, *La Tondeuse des Moutons*, has been sold in Paris for 6,000 francs.

A Free Picture Exhibition at the Public Hall, Canning Town, was opened on Monday last by Sir W. B. Richmond. The exhibition was arranged by the West Ham Corporation.

The *City Press* says that up to the present a sum of close upon 320,000*l.* has been realised by the sale of church sites in the City, and that of this total 188,000*l.* has been devoted to the new churches built in outlying parishes and 115,000*l.* on the churches that remain, while the balance is still apparently in the hands of the Charity Commissioners.

A Service was held on the 8th inst. at the Church for the Blind in Hardman Street, Liverpool, for the dedication of the new pulpit, font and baptistery which have been erected there from the designs of Messrs. Willink & Thicknesse, by Messrs. Norbury, Paterson & Co.

The Duke and Duchess of Newcastle are to be invited to open the new science and art school at Newark, erected in commemoration of the Queen's Diamond Jubilee, on June 21.

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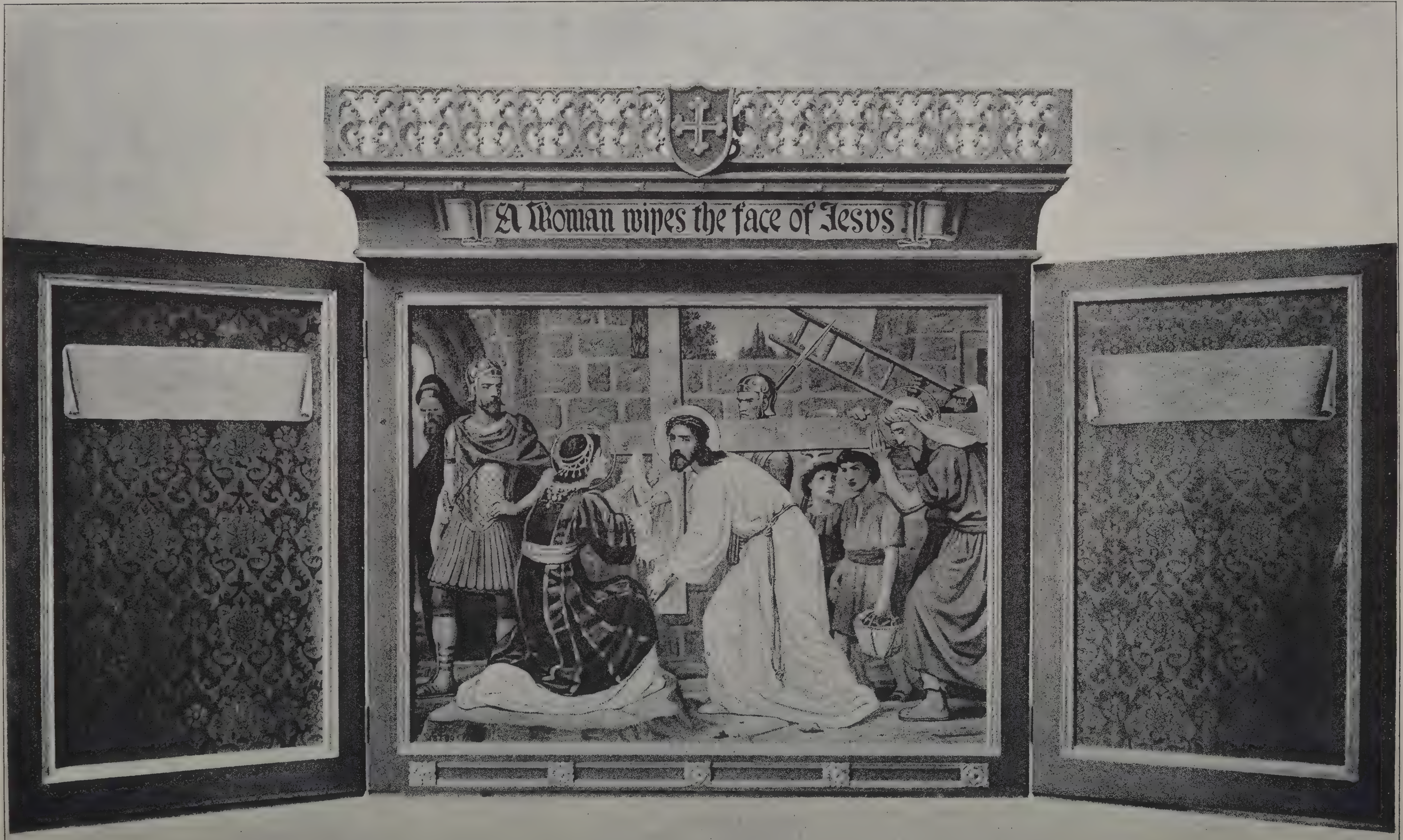
A Woman wipes the face of Jesus

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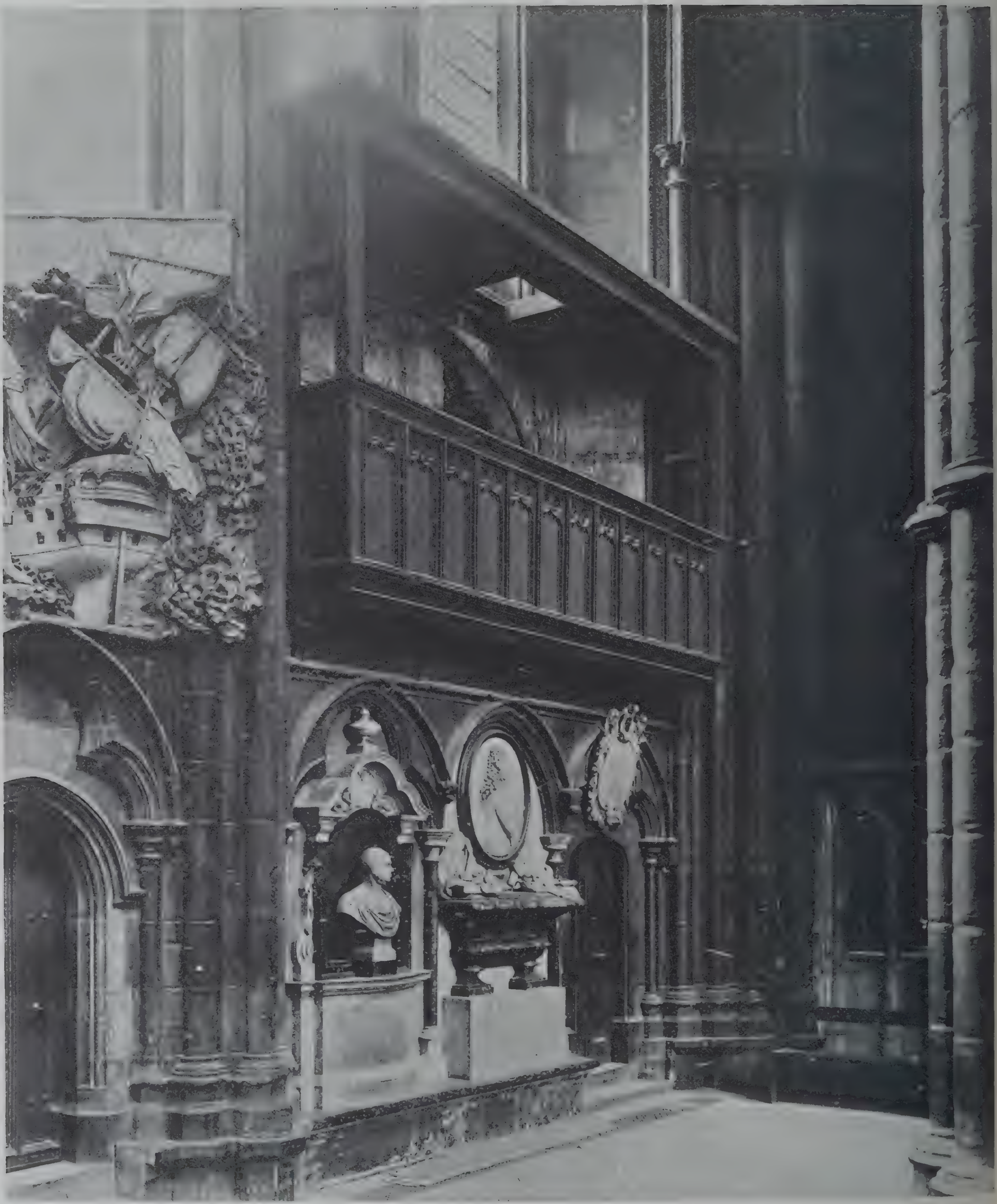

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WESTMINSTER ABBEY, No. 41.
THE ABBOT'S PEW.

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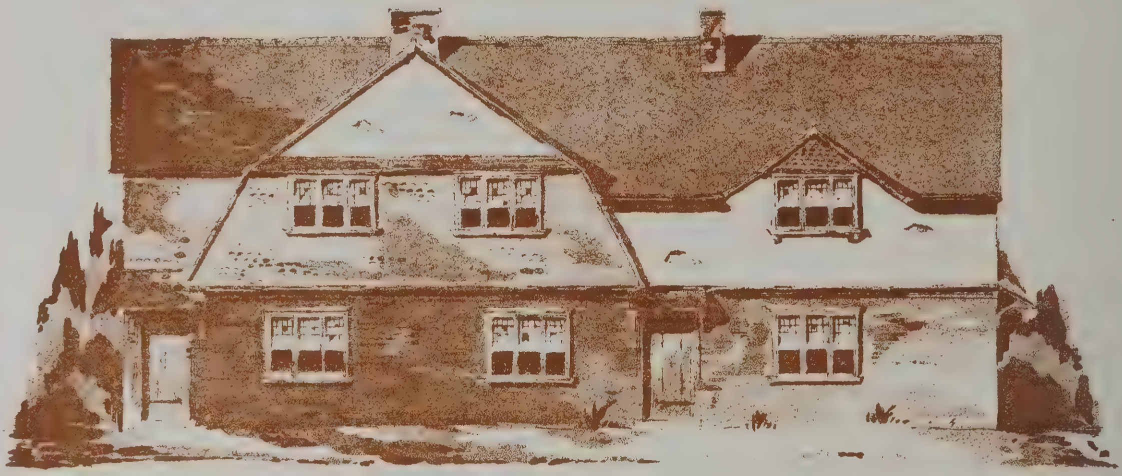
Sketch Designs.

Group C. 3 Cottages.



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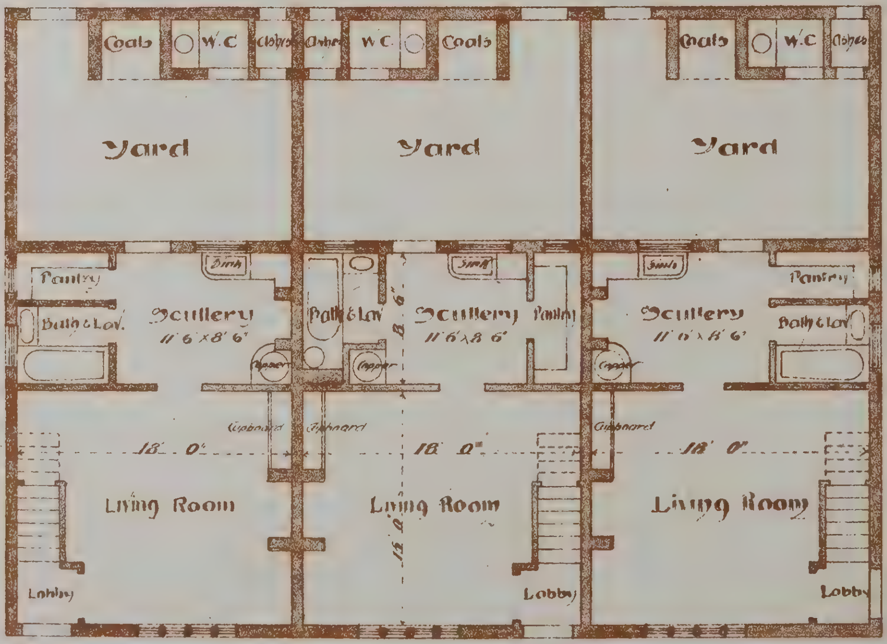

Plan of Ground Floor

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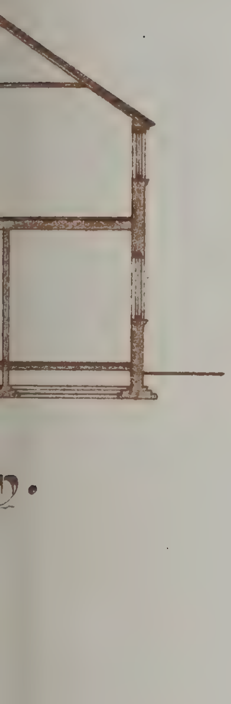
Group D. 3 Cottages.



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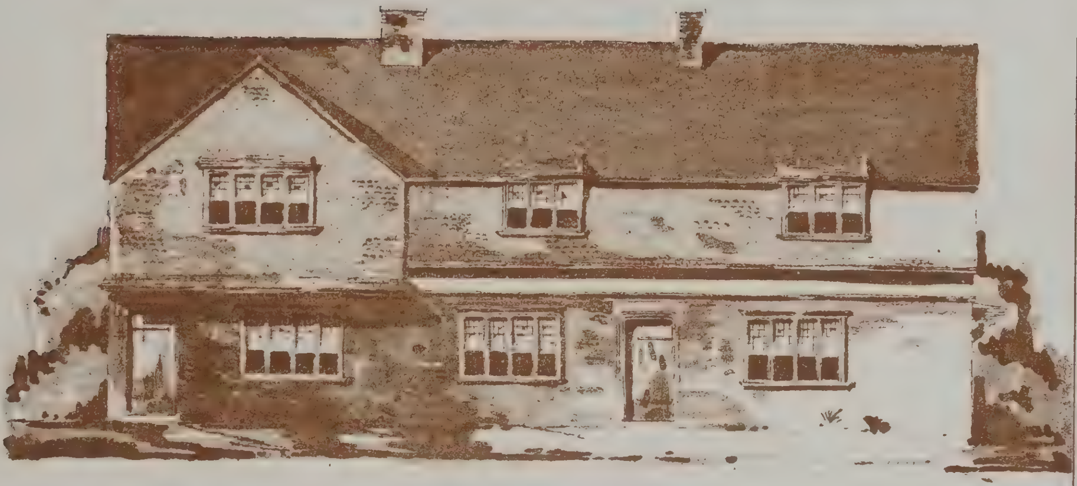

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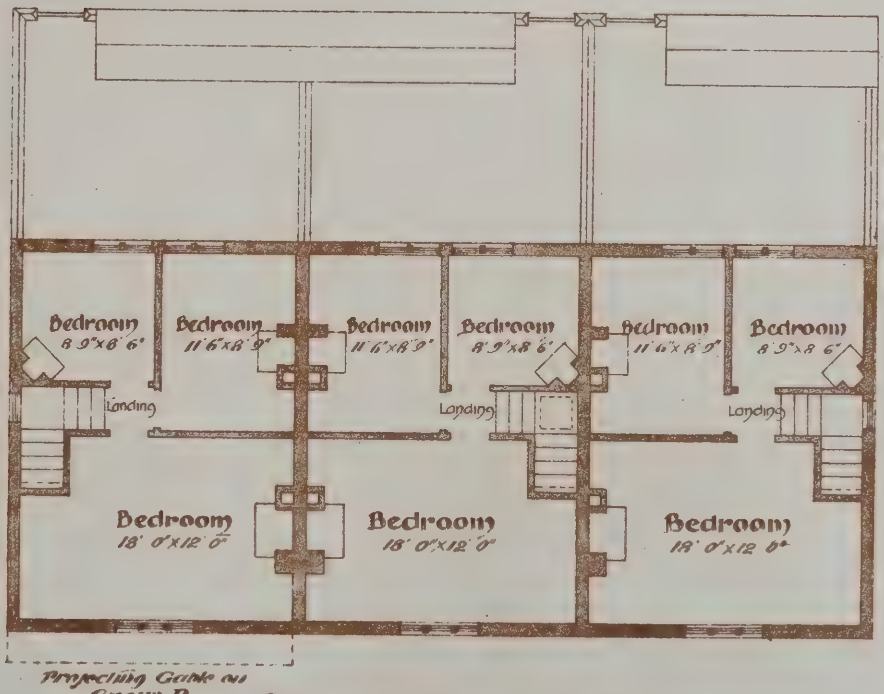

Plan of First Floor.

BOT

TECTS & SURVEYORS

Lord Street LIVERPOOL

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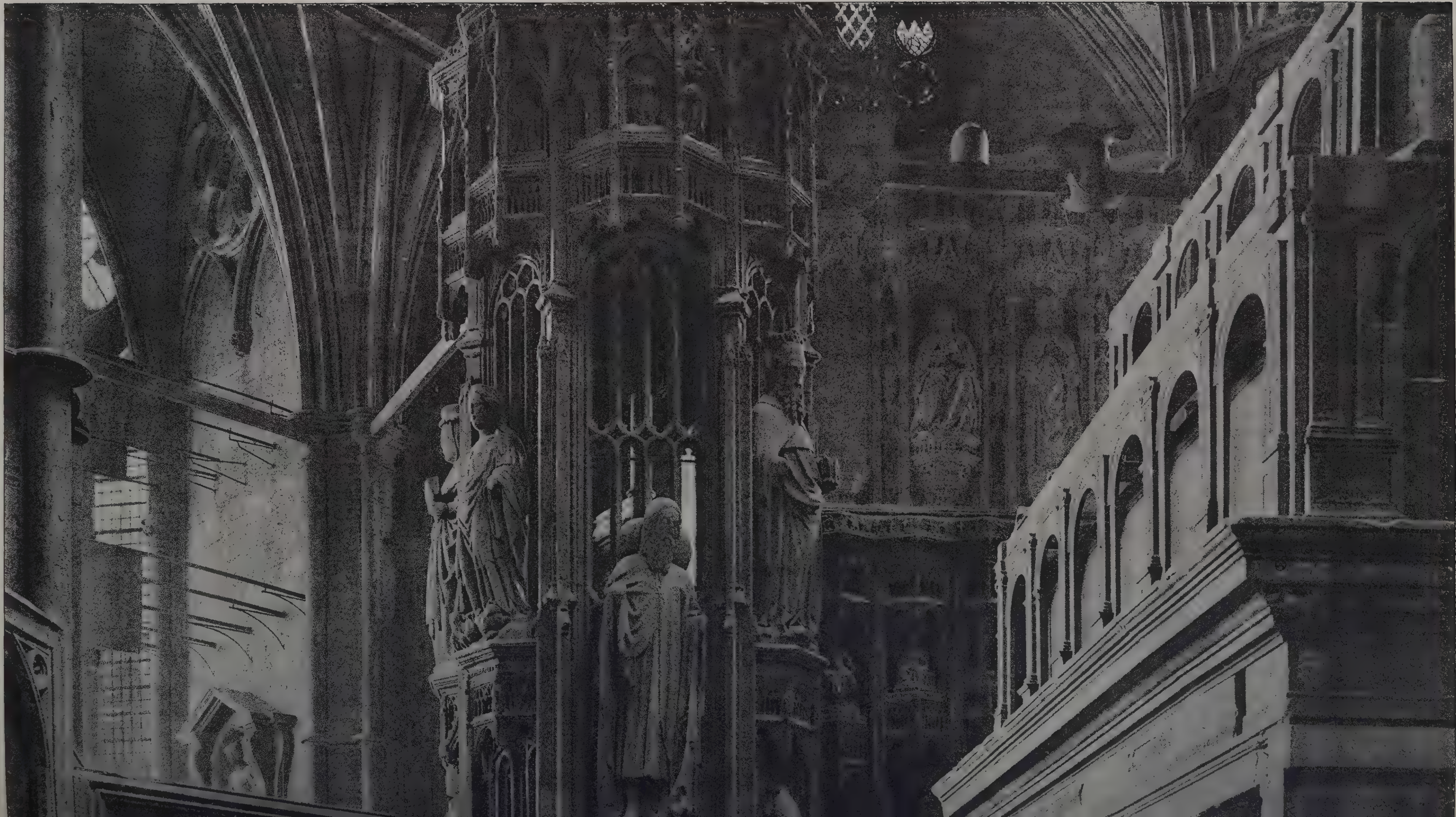

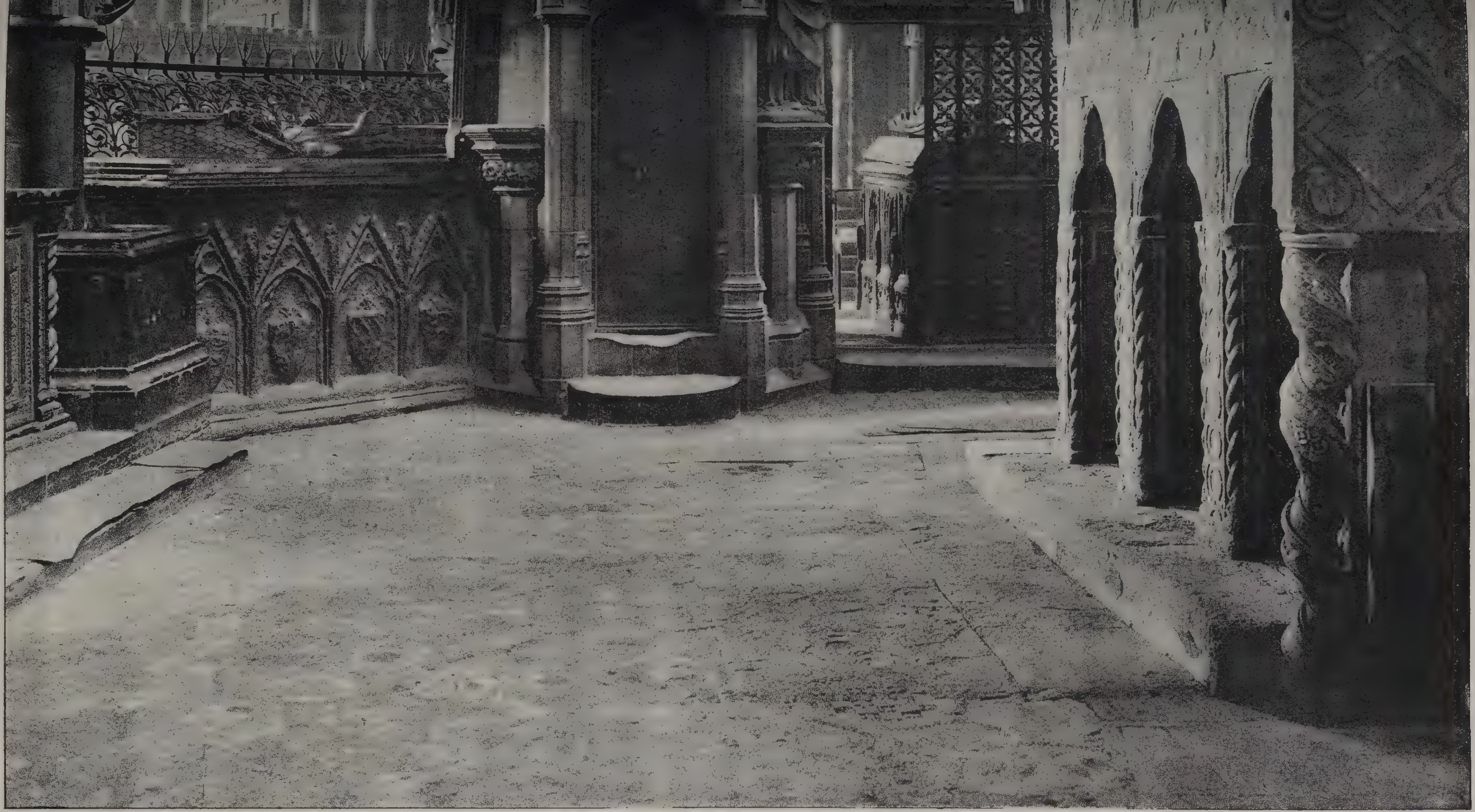

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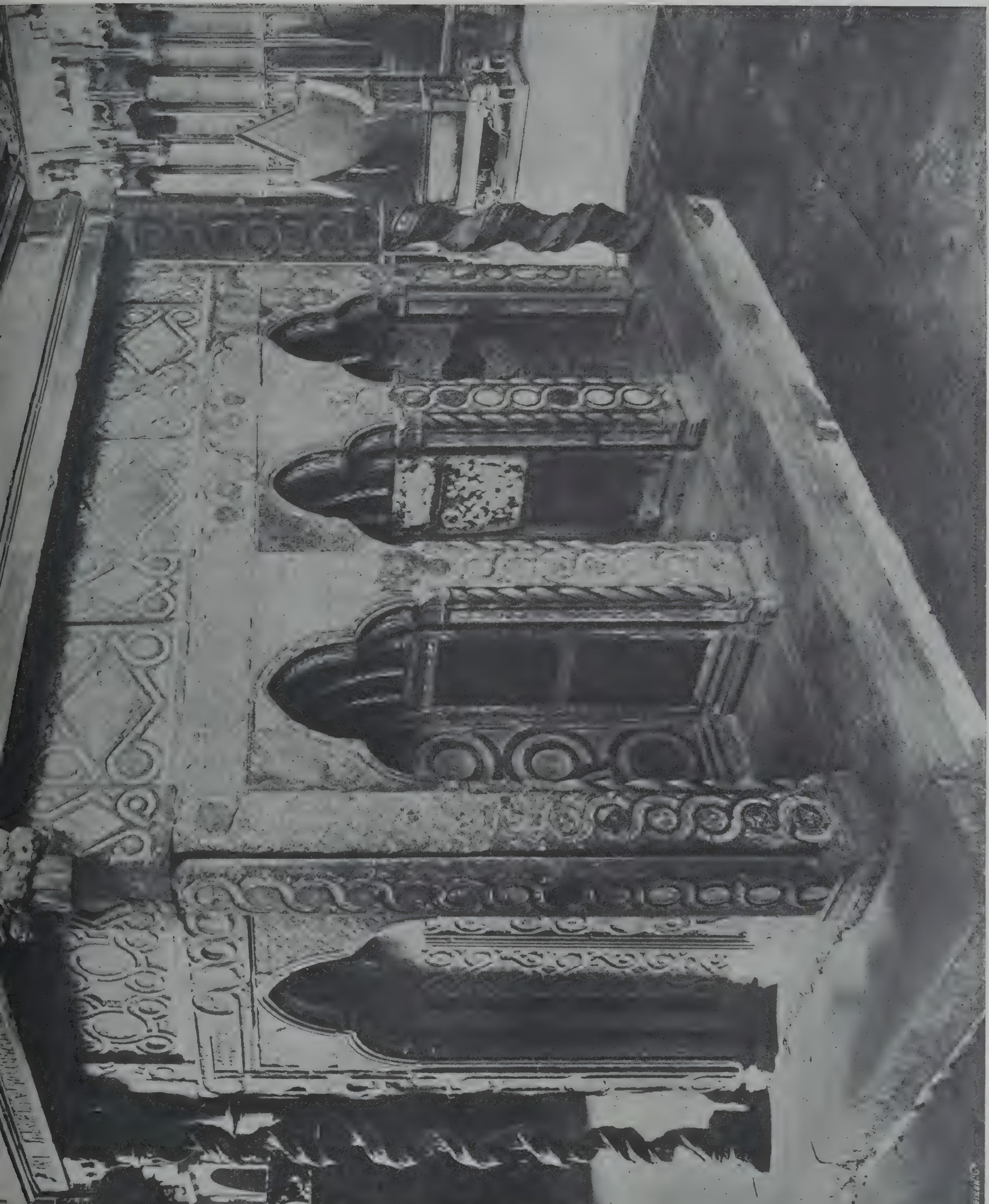
INK-PHOTO, SPRAGUE & Cº Lᵀᴰ 4 & 5 EAST HARDING STREET, FETTER LANE, E.C.

Westminster Abbey, No. 40.

North Side, Confessor's Tomb.



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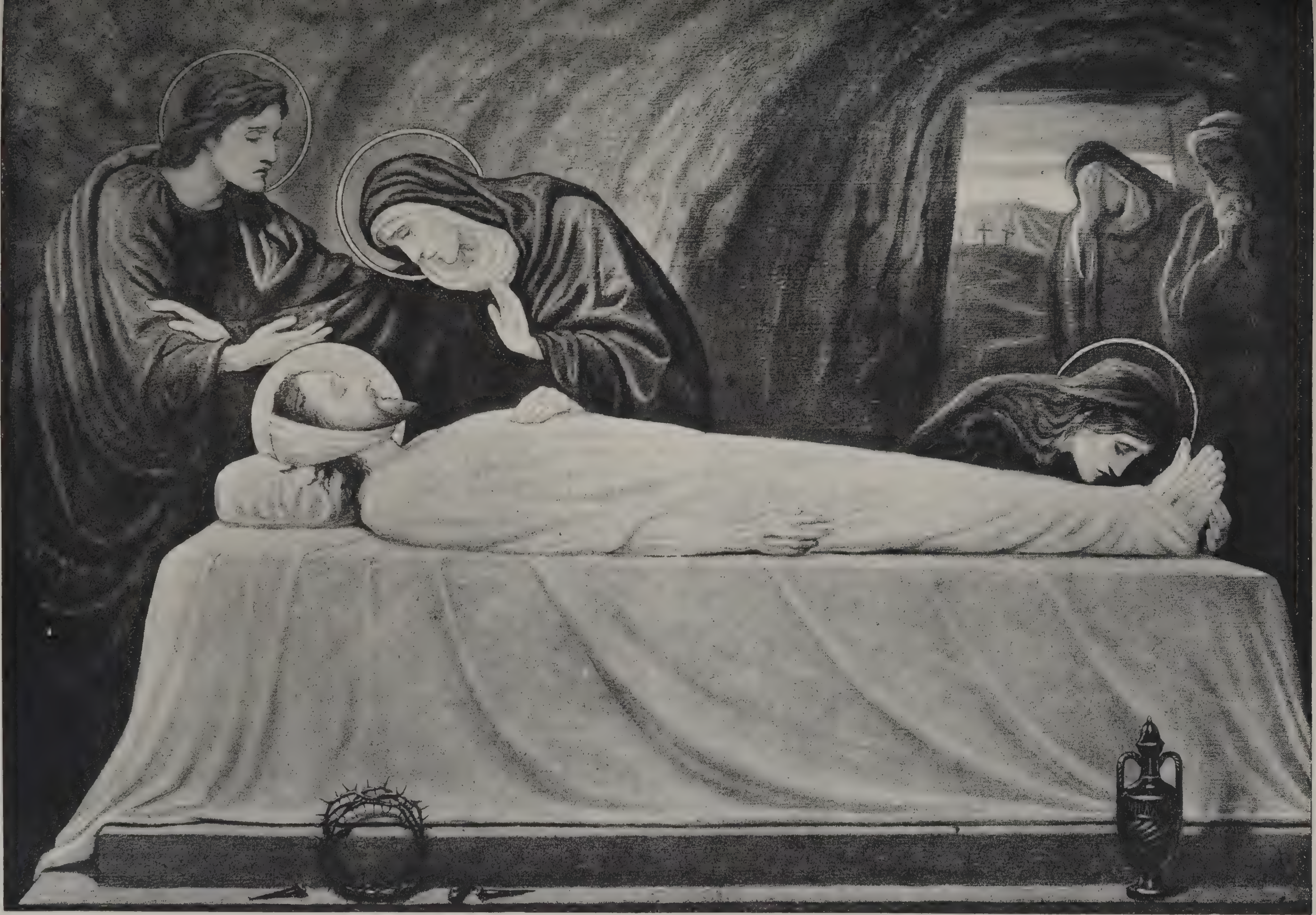
WESTMINSTER ABBEY, No. 42.
NORTH-EAST SIDE, CONFESSOR'S TOMB.



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THE ENTOMBMENT.

By E. A. FELLOWES PRYNNE.

The Architect.

THE WEEK.

The Paris Exhibition has already won distinctions for several architects and engineers. M. Picard has been raised to the rank of "Grand Croix" in the Legion of Honour, which is the highest attainable. M. Buvard, the chief architect to the Municipal Council, and who has been the general director of architecture for the Exhibition, has been promoted to Grand Officier. M. Daydé, the contractor and engineer who has undertaken many of the most difficult structures in metal, has been made Commandeur. The grade of Officier has been conferred on M. Bernard, architect of the new bridge which bears the name Alexandre III.; M. Girault, who has been engaged as architect to the Palaces of Fine Art; M. Raulin, architect of the Salle des Fêtes; M. Scellier de Gisors, architect of the French colonial palace, and M. Thomas and M. Deglane, architects of the Palace of Fine Art. The new Chevaliers who are architects are MM. Cousin, Devienne, Lafon and Louvet. M. Germain and M. Poulin, the sculptors who aided in the decoration, are also enrolled among the new Chevaliers.

In the Great Exhibition of 1851 the contents were classified in six general groups, viz., raw materials, machinery, textile manufactures, metallic, vitreous and ceramic manufactures, miscellaneous manufactures and fine arts. They were subdivided into thirty classes, and for each a jury was selected, the number of members varying from fifteen to four. In the French Exhibition, which was opened on Saturday, a division of eighteen groups has been adopted. The arrangement differs greatly from that of 1851, as will be seen from the following list:—(1) Education and Teaching, (2) Works of Art, (3) Instruments and Processes adopted in Literature, Sciences and Arts, (4) Materials and Processes of Mechanics, (5) Electricity, (6) Civil Engineering and Means of Transport, (7) Agriculture, (8) Horticulture and Arboriculture, (9) Forests, Sport, Fishing, (10) Foods, (11) Mines and Metallurgy, (12) Decoration and Furnishing of Public Edifices and Houses, (13) Thread, Tissues and Vestments, (14) Chemical Industry, (15) Various Industries, (16) Social Economy, Hygiene, Charity, (17) Colonisation, (18) Naval and Military Equipments. The groups are again subdivided into 121 classes. It was considered not advisable in laying out the ground to have the buildings for the several divisions placed together. They are separated by so many others, it is not impossible that the grouping which, after so much trouble, was adopted for the organisation of the Exhibition will be ignored by the majority of visitors. Although at first only eighteen architects, or firms of architects, were selected, it is calculated that buildings by more than two hundred French architects can be seen in the enclosure assigned to the Exhibition on both sides of the Seine. In one sense, so much variety has been advantageous. As M. Alfred Picard, the Commissaire-General, is a civil engineer who, as became a pupil of the Ecole Polytechnique, served during the last war as a military engineer, it was supposed at first that he had decided on the erection of monotonous buildings which would be rigidly utilitarian, and which could be removed without regret. The marvellous variety which is now visible has come as a pleasant surprise to Parisians, but it cannot be said that when the first impression is over the architectural critics are satisfied with the structures.

Another instance of Lord Iveagh's generosity has been made known. His father, Sir Benjamin Lee Guinness, expended about 150,000*l.* on the restoration of St. Patrick's Cathedral, in Dublin. Large as was the outlay it was inadequate to meet all the defects of the building. In the course of forty years the need of additional reparation has been manifested. Some time ago Mr. Thomas Drew, R.H.A., who has charge of the building, found it was in an unsafe condition. The two eastern buttresses are considerably out of the perpendicular, so much so that it has been found necessary to take them down and reconstruct them. In addition, the Caen stone which had been employed extensively in all the dressings of the windows and other parts of the building has crumbled away by the action of the weather. Lord Iveagh, on hearing of the condition of the building, at once gave a thousand pounds in order that scaffolding could be erected to allow of a thorough examination of the masonry. His lordship is likewise paying all the expenses of the reparations which are now in progress. If it will be necessary to have a more extensive course of restoration we have no doubt Lord Iveagh will not hesitate to make himself responsible for its execution.

Officers who obtain appointments in India as engineers are often doubtful about the instruments with which they should equip themselves. A volume entitled "Notes on Instruments Best Suited for Engineering Field Work in India and the Colonies," by Mr. W. G. Bligh, and published by Messrs. Spon, contains the kind of information which the novice requires. The most suitable instruments are not only described, but ample advice is given about their use in Indian field work. The author has devised a special prismatic compass, which Mr. Harling makes; it appears to be adapted for several purposes. Mr. Stanley's mining theodolite is described as unsurpassed as an all-round precise instrument. English inventors will agree with Mr. Bligh when he says:—"The author has found by experience that manufacturers in a large way of business are by no means keen in taking up the building of newly-designed instruments, particularly by unknown persons. The innate conservatism, so prominent a feature in English manufacturers generally, and which is the cause of much loss of trade, which Americans and foreigners consequently snap up, is as marked in the case of some scientific instrument makers as in other branches of trade. In the present case the cost of making the three experimental instruments was defrayed entirely by the inventor, and in spite of this, one firm declined to trouble about the new work unless a guarantee was given that a certain number of the instruments would be ordered. The inventor, who had no means of insuring this, applied to Mr. Harling, who made no such stipulation and was exceedingly obliging in this troublesome matter." It may be mentioned that the publishers, Messrs. Spon, have brought out a new edition of "The Architects and Builders' Price Book," which will uphold the reputation gained by that excellent manual, as it comprises information on many subjects connected with building.

The sales of works of art in the auction rooms at Paris are conducted on a system which differs from that adopted in England. Experts are employed, whose business it is to see that no alarming sacrifices take place, and to insure that a picture by Watteau is not sold as a potboiler by some fifth-rate painter. The experts must be versed in the history of art, and have decision as well as insight. Their usual commission is 3 per cent. on the amount received, and accordingly they endeavour to obtain as high prices as possible. The expert who was engaged in connection with the sale of the Spitzer collection was M. Charles Mannheim. As the late M. Spitzer was one of the shrewdest of experts, the appointment of M. Mannheim, which no doubt was long ago arranged, suggested the value of his services. The sales amounted to about 9,500,000 francs, which in Paris was almost without precedent. Madame Spitzer expressed her gratitude to M. Mannheim and approved of his account without any demur. A son-in-law of M. Spitzer took a different view of the transaction. He considered that M. Mannheim acted in his quality of executor, and that it was his duty to do whatever was possible to enhance the value of the estate, but he offered 50,000 francs in return for the services rendered. The case had to be brought before the judges. In the first court it was decided that M. Mannheim did more than was to be expected from an executor, and that it was owing to his labours the sale was so remarkably successful, but it was added that while 3 per cent. was a fair commission in ordinary cases, it was excessive when the property was of immense value, and that a reduction became necessary. The case was then brought before the Court of Appeal. The decision of the judges in the lower court was confirmed, and the amount to be paid to M. Mannheim was fixed at 150,000 francs, or about one-half of the sum to which he thought he was entitled.

ARTISTIC COPYRIGHT.

THE current session of Parliament will be occupied with so many momentous subjects it is not unlikely that the Copyright Bill will be among the innocents which are doomed to be slaughtered in the autumn. The subject is one which has much importance, for it is hardly equitable that a foreign writer and a foreign artist should have more protection from the law of this country than any of their English brethren. The reason for the difference is to be traced to the desire to stand well with foreign countries, and which has been, unhappily, rarely successful. If in any foreign country the laws are extremely favourable to an artist or a writer, or at least appear so on paper, he is entitled to look for similar favour in this country. But why should there be a different treatment of natives? It is only right that property in books and pictures should, as far as possible, be placed on a footing corresponding with other classes of property. It is in the hope of securing that desirable end a Copyright Bill has been prepared.

It is very remarkable that in Great Britain artistic is of much older date than literary copyright. The Engraving Copyright Act is dated 1734, whilst the earliest Act for the protection of literature is the Dramatic Copyright Act of 1833. The former Act owes its existence to the energy and shrewdness of WILLIAM HOGARTH. After his marriage he found he was unable to keep THORNHILL'S daughter in a becoming style if he followed the ordinary practice of an artist. He therefore resolved to combine engraving and publishing with painting and design, and to produce dramas in a series of engraved plates. It should also be remembered that at the time there were only two print shops in London, and their trade consisted mainly in selling foreign prints. There was therefore an opening for another variety of agency between the producer and the purchaser. HOGARTH'S experiment was successful, for 1,200 copies of the "Harlot's Progress" were subscribed for. The plates were, however, copied largely, and vast quantities were sold throughout the country by hawkers. When HOGARTH realised he could not have the sole right to his own inventions he called a meeting of designers and engravers, and an application was made to Parliament for protection. An Act was therefore passed by which it was enacted "that any designer shall have the copyright of his design (whether engraved by or for him), and a penalty is to be laid on all who shall pirate the whole or any part of the print." It was found that the first Act was not sufficiently comprehensive, for it referred mainly to engravings like HOGARTH'S, which were peculiar in being only one man's works. Another Act was therefore passed, in which prints from ancient pictures or sculpture were placed in the same category with those produced from the original design of the engraver. It was also necessary to have a third Act in 1776, and other Acts for the protection of engravings were approved at a later time. It is remarkable, however, that no protection was thought necessary for paintings until a comparatively late period. English painters were for many years indifferent to the advantages of copyright. Only a very few among them cared to exact any money for the privilege of reproducing an engraving from a picture. The popularity which was obtained by means of prints was supposed to be an adequate recompense. One prominent exception was Sir THOMAS LAWRENCE, who was paid 3,000*l.* a year by HURST & ROBINSON for the right of making plates from his portraits. Another painter was Sir DAVID WILKIE, who received 1,200*l.* on account of the print from the *Chelsea Pensioners*, being a similar sum to that paid by the Duke of WELLINGTON for the original painting.

As the Copyright Acts arose under different conditions it was not to be expected that there should be any uniformity in the regulations. For instance, the term of copyright for engravings and prints is still twenty-eight years from time of publication. In sculpture the term is fourteen years, and if the sculptor should survive so long he can claim a second term of similar duration. For paintings and photographs the term of the copyright is the life of the artist and seven years. Registration is required for paintings and photographs, but is unnecessary with engravings, prints and sculpture.

In the earlier Acts the only rights which were recognised were those of the artist or producer; but about 1860 owners of pictures and statues claimed that they should also be considered. It used to be taken as a privilege to have one's name published at the foot of a print, for in that way a little fame was obtained. Costly books which were illustrated with copper-plate engravings, such as JOHN BRITTON'S "Cathedral Antiquities," became possible through the support which was derived as a result of the dedication of each plate to a special patron. When the purchase of pictures became mainly a commercial enterprise, and galleries were broken up without the least remorse whenever there was a chance of obtaining profit on the original investment, a new condition had to be dealt with. The painter in some cases had already sold the right of reproduction before he parted with the picture, and although one owner of a picture might be indifferent to so shadowy a share in the proprietorship, another might wish to have his possession absolute, without any claim for engraving and the like. An effort was made by the Legislature to meet the difficulties, but it has not proved to be altogether efficient. At present it is supposed the artist retains the copyright, unless his work is sold or was produced at so high a price as to warrant the conclusion that all rights were included. In that case he loses it unless it is reserved to him by a written agreement from the owner of the work. It is easy to see how much uncertainty arises, for by what scale can the presumed valuable consideration be determined? On the other hand, the owner does not acquire the copyright unless there is an agreement to that effect signed by the artist. With so roundabout a procedure it is easy for both artist and owner to be unable to produce the necessary documents to support a claim to copyright. The right of reproduction then becomes public property, and can be exercised by anybody. So anomalous a state of things is by itself sufficient to demonstrate the necessity of an amendment of the existing copyright laws.

The Bill to amend and consolidate the law relating to artistic copyright in the first place proposes to make copyright uniform for pictures and statues, as well as for engravings, prints and photographs. The term of copyright is to be the life of the author and thirty years after the end of the year in which he dies. In the next place a distinction is made between copyright and ownership in the common acceptation of the word. Although the two may be vested in the same individual, they are to be considered as distinct properties for the purposes of assignment, devolution at law, &c. As possession is, according to the old saying, nine points of law, the owner of a painting, statue, or drawing has rights over the copyrighter. One clause says, "The owner for the time being of the copyright in any artistic work, who is not the owner of the work itself, shall not, nor shall his representatives or assignees, exercise any privileges conferred by such right without the consent of the owner for the time being of the work itself, or the representatives or assignees of such last-mentioned owner." That enactment will cause publishers to hesitate before purchasing copyright, for with an unfriendly or mercenary owner of a picture the value of the copyright might become seriously diminished. What is more is that the owner of copyright cannot assign or grant it to another person without the signed approval of the owner of the work.

The penalties for invasion of artistic copyright cannot be considered as too severe, especially for one class of offence. To copy a picture and to sell the copy as the original is an offence for which a penalty of 5*l.* is not excessive. But in a case of distributing or importing small prints of the picture or a part of it, the imposition of a similar penalty for each printed copy cannot be called merciful. It is true the whole of the penalties inflicted in respect of the same transaction must not exceed 50*l.*, but that would be a large sum for a benevolent individual to pay who endeavoured to convert the world by distributing a tract broadcast and gratuitously, and imagined that his arguments would be enforced by the introduction of a little woodcut taken from a popular picture. A case lately occurred, and we believe it is still before the Courts, which suggests the ease with which a Copyright Act can be broken and heavy penalties incurred unintentionally by intelligent people. A firm of drapers purchased, as they believed a stock of lithographs, which they used for advertisements, believing that they acquired all rights which existed. In course of time the design became associated with their business from the quantity of copies they had distributed. They had a part of it reproduced for a small block to be inserted as an advertisement in a newspaper. The original vendors brought an action against the owner of the paper, and the Courts decided in their favour, ordering that a penalty should be paid on every copy issued. In that instance the assessed damages were much more than 50*l.*, but even 50*l.* is too large a sum to be mulcted in for so trivial an offence. An ignorant man might be deceived by an imitation of one of Sir Laurence Alma-Tadema's pictures, and the producer and agent for sale of the forgery should be heavily punished. But can it be supposed that if an altar, chair or wreath were copied from one of the artist's pictures in a school-book, or if a dress of a Roman lady were introduced in a penny journal of fashions, that the artist would suffer in purse or reputation by the imitation?

By having only one class, venial offences and scandalous forgeries are put on the same level, and the usual result must be anticipated, that the guilt of the latter is diminished in the eyes of the public and a serious injury is done to art. The recognition of the rights of ownership creates, as it were, a double-barrelled weapon against offenders, for not only can the owner of the copyright institute proceedings, but the owner of the work, who as such may have no claim on the copyright, can also take action and institute proceedings for infringement of the Act. We believe that often when publishers prosecute, it is not from a belief that their property will be directly injured by a humble class of reproductions. The difference between a fine print and a photographic copy is so wide no expert can believe there will be any risk of confusion between them. But the people who have subscribed for prints are very often unskilled, and are liable to consider that one copy is as good as another. In that case, there is grumbling about the price paid to the publisher, who is accordingly compelled to assert his rights in the police court and to seize on imitations.

It will be observed there is no mention of architectural designs. They are not even included among the artistic works to which the Bill does not apply. All designs defined by the Patents and Designs and Trade Marks Act, 1883, are excluded from the purview of the Act. It would perhaps be difficult for the promoters of the Bill to define the ground of the exclusion, for there is no doubt the subject is extremely complicated. In the first place, architectural designs differ from ordinary designs or paintings, because what is most admired is the work which is accomplished from the designs, and which may not always correspond with the original project. The majority of people would prefer a drawing from a completed building to any reproduction of the plans which were prepared for the contractor. To prohibit copying of the plans and yet allow the building to be represented would be anomalous. Some foreign architects who have been agitating on the subject would make it penal for anyone to draw a building without the architect's approval. That is no doubt logical, but if such a course were adopted it would be necessary for every architect to inform his client that if he designs a house for him it must be on the condition that he (the owner) will not allow any drawing to be made of it. There are few, if any, architects who would have the courage to take that course. Then it was probably concluded that there is an essential difference between an architect's work and those of painters and sculptors. Judges and juries take it for granted that pictures and statues are the handiwork of the artists who claim them. The assistance rendered is supposed to be of no account. The building, on the other hand, is assumed to be the creation of contractors and workmen, the architect's share being limited to the preparation of drawings which in law are the property of whoever gave the commission. Where there is so much co-operation a judge would hesitate about how a claim for copyright could be supported by any individual. It does not appear that in any foreign country much would be gained by allowing the architect the exclusive copyright in a building, but in England it would probably have the effect of increasing responsibilities and placing architects in predicaments which would make their position less desirable than it is now.

GARDEN MAKING.*

A CHARGE has been often raised against the English people concerning their indifference to art. It should, however, be allowed that they appear at all times to have found a substitute at least for painting in their gardens. Psychologists are indifferent to actualities, and care little for man as he exists, otherwise they would have been able to throw light on their speculations about the æsthetic faculty by referring to the love of gardens which is inherent in man. Last week we published an article on the raft of the storm-tossed Ulysses. Who can tell whether the subtle chief did not often, while steering it, think of the future which might await him in Ithaca, for Odysseus of many wiles must at times have wished to spend his last days, like his father Laertes, in a garden. There is no more pathetic scene in Homer than the visit of the prince to his old parent, who endeavoured to wile away the grief for his absent son by tending his plants. The example of Laertes has been imitated by princes, statesmen, and great people in all ages; indeed, gardening can make out a grander show of notabilities who have followed it with more or less success than any of the other arts. The affection has continued to our own days. Who can forget the reminiscence of the late Cardinal Newman at a time when he was convinced he was about to undertake a great mission, but which could not prevent him from reviving his old affection for the garden? He wrote:—"A life in the country, in the midst of one's own people, was the dream of Roman poets from Virgil to Juvenal, and the reward of Roman statesmen from Cincinnatus to Pliny. I called to mind the Corycan old man, so beautifully sketched in the fourth Georgic, and then my own fantastic protestation in years long dead and gone, that, if I were free to choose my own line of life, it should be that of a gardener in some great family." When we find a divine who had so little of the world about him inspired by such an ambition, we must acknowledge that the garden has a hold on the human race which is not easily to be loosened.

At the present time, when evolution is applied to everything, gardening has the advantage that it also allows an application of the principle. Falconer's "Historical View of Taste for Gardening" will supply much information applicable to the subject. Long ago Horace Walpole attempted something of the kind, and looked on the garden in the sense of a pictorial development, which grew from a necessary appurtenance of the primitive dwelling into a creation of scenery and a connection between the property of an individual and the surrounding country. Sir Walter Scott also appreciated the garden as one of the most treasured features of feudalism. He considered that a vast step in civilisation had been made when some high-born lady was enabled "to come down from her seat upon the castle walls, so regularly assigned to her by ancient minstrels, and tread with stately pace the neighbouring precincts which art had garnished for her reception." It was necessary, however, to protect those gardens with walls, and fosses were useful for that purpose as well as for the supply of water to fountains and basins. Then, as Scott says, new ornaments were introduced, banqueting-houses were erected, terraces extended and connected by staircases and balustrades. The result was "in the highest degree artificial, but it was a sight beautiful in itself, a triumph of human art over the elements." In England, however, the associations with feudalism could not always be omnipotent. In peaceful days the necessity for enclosed gardens ceased to be evident. The affection for flowers would also compel people to dislike anything which suggested growth while imprisoned. It is remarkable that at a time when the utmost formality prevailed Sir Henry Wotton, who, as the ambassador of James I., had lived long among Italian gardens, and who was an undoubted lover of architecture, was an advocate of liberty in gardening, and therefore anticipated Capability Brown and the Natural School. In his "Treatise on the Elements of Architecture" he says:—

> I must note a certain contrariety between building and gardening. For as fabrics should be regular, so gardens

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* *The Art and Craft of Garden Making*, by Thomas H. Mawson, garden architect. Illustrated with perspective views drawn by Mr. C. E. Mallows, &c. London: B. T. Batsford and Geo. Newnes, Limited.

should be irregular, or at least cast into a very wild regularity. To exemplify my conceit :—I have seen a garden (for the manner perchance incomparable) into which the first access was a high walk like a terrace, from whence might be taken a general view of the whole plot below, but rather in a delightful confusion than with any plain distinction of the pieces. From this the beholder descending many steps was afterwards conveyed again by several mountings and valings to various entertainments of his scent and sight, which I shall not need to describe (for that were poetical); let me only note this, that every one of these diversities was as if he had been magically transported into a new garden. But though other countries have more benefit of sun than we, and thereby more properly tied to contemplate this delight; yet have I seen in our own a delicate and diligent curiosity surely without parallel among foreign nations, namely, in the garden of Sir Henry Fanshaw at his seat in Ware Park, where I well remember he did so precisely examine the tinctures and seasons of his flowers, that in their settings, the inwardest of those which were to come up at the same time should be always a little darker than the outmost, and so serve them for a kind of gentle shadow, like a piece not of nature but of art.

In the unhappy times of JAMES'S son and successor much damage was done to the stately English houses, and numerous formal or mathematical gardens which had been created in the reign of ELIZABETH were swept away in the commotions. There was another reason which deprived those gardens of favour. JOHN MILTON had to describe Paradise, and he showed himself to be on the side of the naturalists. He pointed out that in the Garden of Eden nature had poured out profusely flowers on hill and dale and plain, and there was no sign "of nice art in beds and curious knots." That corresponded with BACON'S notion that knots or figures were toys, and "you may see as good sights many times in tarts."

The battle between the artificial and the natural has gone on ever since, and will continue, we suppose, as long as England has plots of ground which are not covered with business premises. It is well, however, to remember that the Elizabethan gardens which might be considered as architectural, and therefore artificial, only covered a part of the space which was allotted to pleasure. Near the mansion art asserted its dignity, but its influence was gradually diminished as chases, thickets, forest-walks were reached. "A green in the entrance, a heath or desert in the going forth," was BACON'S ideal. The French style came in with CHARLES II., and a still more artificial style was introduced and patronised by WILLIAM III. KENT would hardly have succeeded in his transformations if there was not a reaction against artificiality to support him. BROWN, his successor, went further still, and expressions have been recorded of him which are blasphemous, from his ranking himself with the Creator of all things. UVEDALE PRICE and PAYNE KNIGHT were great lovers of pictures, and although they loved nature sincerely they did not consider it was necessary to keep away terraces, flights of steps, statues, vases and balustrades, with other evidence of formality, as if those forms brought the plague with them.

After so long a period of contention, and with a subject which cannot allow of the entire exclusion of nature, it is not wise to be dogmatic and to allow to any one party the monopoly of good taste. We are therefore glad to see that Mr. MAWSON, of Windermere, the author of the new book on "Garden Making," who has had much experience in the laying out of gardens, is disposed to be eclectic. He employs architectural elements and he constructs paths and roads on geometrical lines, but he maintains that naturalism still has its use, and the best way is to respect the two in garden works. The formal garden now and in the future will, he considers, avoid the monotony of chess-board plan and the topiary work which was not indicative of reverence for nature. "What we are returning to," he says, "is the truthful simplicity of the older work—a garden which will be all the more charming and lovable by having its borders filled and shubberies and plantations diversified with the many beautiful flowers, shrubs and trees which have found their home among us."

There are many facilities for the creation of formal gardens which were unknown to the designers of an earlier period. Terra-cotta of pleasing colour, which has peculiar fitness for general use, can now be obtained in a great variety of forms and at an expense which must appear insignificant if compared to wrought-stone. Excellent ironwork for gates and palings is also available. At no time was it so easy to obtain conservatories having an architectural character which would be in keeping with that of the mansion. That branch of construction now comes nearer to perfection than many others. When so many auxiliaries can now be called on who will loyally carry out the garden architect's intentions, it is no wonder that an impetus has been given to the creation of gardens which combine the best qualities of those in preceding ages in England.

If successful gardens are desired it will be necessary for the designers to give attention to all branches of the subject. They should be able to take comprehensive views of the characteristics of the country around a site. Sir JOHN VANBRUGH set an example which deserves their consideration. When he was consulted about laying out the grounds of Blenheim he recommended the calling in of a landscape-painter. Naturalism was then paramount, and it evidently was VANBRUGH'S wish to have the grounds laid out on a grand scale and without any of the heaviness or the pettiness which might arise when an ordinary architect prepared the plans. The qualities of VANBRUGH'S own works which most struck Sir JOSHUA REYNOLDS were their picturesque character, which was evident from the care taken that the buildings should not crudely and abruptly start out of the ground without preparation, or, in other words, he adopted the rules of painters in dealing with masses and which were derived by them from nature. But with all his knowledge VANBRUGH was aware there was something he had not studied which was indispensable for the laying out of gardens. He therefore wished to have a painting by a landscapist which would serve to indicate to himself and to others the best way of dealing with the subject.

As a guide to those who are in need of information the new book on "The Art and Craft of Garden Making," by Mr. MAWSON, will be found to be of the greatest use. His chapters treat of the following subjects :—Garden making, old and new; the choice of a site and its treatment; fences and gates for garden and park; entrance gateways, carriage courts and drives; terrace and flower gardens; lawns and garden walks, summer houses, trelliswork and garden furniture; conservatories, greenhouses, vineries and fruit houses; the treatment of water as fountains, lakes, streams and ponds; kitchen gardens and orchards; the formal arrangement of trees and shrubs as avenues, hedges, &c.; planting for landscape effect trees, shrubs and conifers, hardy climbers and roses, hardy perennials, aquatic plants and ferns. There are also examples of gardens, which are shown by carefully drawn plans and perspective views. The various subjects are satisfactorily treated, and, moreover, while the author speaks of his own experience, there is nothing stated that would suggest he believes he is the only competent practitioner of the time.

There is one danger at present on which Mr. MAWSON does not dwell with sufficient emphasis. The style of architecture which is now in vogue is supposed to owe much of its success to the variety of the details. Mechanical production enables so much to be done at a small expense that plain surfaces have become almost valueless. Now it cannot be too strongly borne in mind that in a garden repose should be manifested everywhere. We are dealing with nature or competing with it, and we should take care like nature to avoid everything that is fussy. The description which DICKENS gives of JOHN WEMMICK'S garden in Walworth is no doubt a caricature, but it is applicable to many suburban gardens, and suggests the ambition of, we are afraid, too many Londoners when they have become prosperous. The confidential clerk was his own engineer, carpenter, plumber as well as gardener, and the manifold activity as he said brushed the Newgate cobwebs away. But his little patch was a microcosm; it had fortifications, a bridge over a chasm 4 feet wide, a bower, a lake with an island large enough to supply the salad for one supper, a fountain, a mill and what not. All the variety can hardly appear to be the invention of a sane person. The place had the qualities which a little garden should not have, but no doubt the diversity was rejoiced in by the owner's friends. The Wemmick system is not unlikely to be employed by those who consider that gardening affords unlimited scope for xtravagance, and who imagine it is satisfactory to be able o defeat nature on its own ground. For that reason a tudy of Italian gardens would be no disadvantage for the nglish garden architect, although he could not expect at rst to please every client by arrangements in which multilicity was avoided. In the Italian examples he would see hat although art, artifice or artificiality has the upper hand, here is rarely any littleness. If the architecture is most rominent, it has received a treatment which makes it vorthy of the distinction. The sculpture in the best class f villas is also refined, and if there are figures of an xaggerated type they are usually to be found in connection vith rockeries, and are manifestly fantastic exercises in which he humorous rather than the beautiful was sought.

A JAPANESE IMPERIAL PALACE.

AMERICAN engineers and manufacturers have been engaged to design, construct and erect the steel framevork of a large palace for the Crown Prince of Japan. Besides he interest attached to such an important foreign contract, his structure, says the *Engineering Record*, has special details lesigned to meet conditions unknown in the United States, for apan is subject to an average of 300 earthquakes every year. These quickly overthrow ordinary brick buildings. Wooden rames endure the vibrations better, but are very undesirable on account of their inflammability. At present the architecture s in a transition stage, but there is a tendency to build the ouses with steel frames.

This palace will be much the tallest building in Japan, and its safe construction was pronounced impossible by prominent rchitects in Japan and Europe. The fundamental principle and leading consideration in the design have been not only to provide for its stability under a single severe earthquake shock, but to insure its endurance of numerous shocks continuing year after year at frequent intervals. To meet these strains and vibrations every part of the building is supported or reinforced by a skeleton steel framework made continuous throughout, so as to act as a whole to resist displacement of any part. There are very few adjustable members or loose joints. Nearly all connections are rivetted with unusual strength, although they are not so rigid but that the members may deflect within the limits of their elasticity without injury. Special lateral strength and stiffness are introduced by systems of struts and ties in all the horizontal planes, which develop the strength of the beams and girders, and practically create great horizontal trusses to resist distortion and distribute strains. The masonry is massive, proportioned for stability, and abundantly anchored at all points to the steel framework. The solid continuous floors add to the strength and rigidity of the structure, and its stability is promoted by making the cornice, parapet and other upper parts as light as possible. The whole building is seated on wide continuous footings of solid concrete, to which the columns are each bolted.

The palace is designed as a residence for the Crown Prince's household, and to contain some of the State offices. It is approximately rectangular, with various extensions, two 62 by 75-feet courts, and extreme dimensions of 270 by 400 feet. It will be only two storeys in height, with a cornice 60 feet above the ground. It will probably cost 3,000,000 dols., and will require six or seven years for its completion.

The outer walls will be of granite, and will be self-supporting. The roof and floors will be carried by the steel framework, which has 422 columns, each securely anchored by four 1¼-inch bolts to reaction plates 2 feet square, embedded in the solid concrete. The columns are chiefly set in rectangular rows, from 11 to 14 feet apart in both directions, averaging 12 feet. Nearly all the columns are composed of one 12-inch 31½-lbs. I-beam and two 12 inch 20½-lbs channels with their flanges connected by 6 by ⅜-inch tie-plates 4 feet apart Each column is in three lengths of from 16 to 23 feet, and is spliced with four cover-plates 12 inches above each floor line. A system of horizontal bracing was designed to connect the shoes of all columns. Transverse and longitudinal struts were put in every row, and the panels formed by their intersections were in most cases provided with crossed diagonals. The struts were of rectangular cross section, made of four 4¼ by 3-inch angles latticed on all sides, and are 12 inches wide and 16 inches deep, with rivetted connections. The diagonals were single 5 by 3½-inch or 6 by 3¼-inch angles.

In the first floor the girders are all pairs of I-beams or channels, usually the former, from 10 to 15 inches deep, and the 7 and 8-inch floor beams, about 4 feet apart, are web-connected to them with their lower flanges flush with those of the girders. The girders are connected to the columns by horizontal shelf angles across their top and bottom flanges, and also have web-connection angles to the column flanges. Besides this, the girder flanges are cut to clear the webs of the column channels, the ends of the I-beams extend 3 inches inside the columns, and the beam and channel webs are rivetted together back to back. This arrangement is designed to develop satisfactory bearings, great rigidity and a large proportion of the tensile strength of the beams, which thus act as ties throughout the building.

The floor beams are connected by ¾-inch tie-rods through the webs 4 inches above the bottom flanges, with the usual nut bearings. Sheets of No. 16 corrugated iron are sprung between the lower flanges of the floor beams to make continuous segmental arch soffits of 12 inches rise. Above the corrugated iron concrete is filled in solid to a depth of 6½ inches above the crown, or 3½ inches above the deepest girders, and the wood floor is laid on this. Under the lower flanges of the beams and girders is a false ceiling of wire-cloth and plaster. The second floor is identical in general construction with the first Neither has any diagonal bracing, but in or adjacent to the planes of all the walls, both interior and exterior, there is at both floor levels a horizontal strut composed generally of two 10-inch channels well rivetted to the columns at right angles to the floor girders. These struts are web-connected to vertical gusset plates In a few instances a similar connection is adopted for pairs of channels used for floor girders, where they connect to interior columns.

The ceiling of the second storey is in the horizontal plane of the lower chords of the roof-trusses, and is divided into rectangular panels corresponding with the intersections of the rows of columns, by the roof-trusses and by column struts at right angles to them. The struts are pairs of 8-inch channels with their flanges turned inward, and are connected like those in the planes of the floor. The panels are subdivided by transverse ceiling beams, usually 6-inch 14¾-lb I-beams, about 6 feet apart, which are web-connected to the lower chords of the roof-trusses. In each main panel there is a pair of intersecting diagonal rods 1 inch in diameter with 1⅜-inch upsets, which have clevis connections to separate 1½-inch vertical pins through the ends of tie-plates on the top flanges of the struts. The lower chords of the roof-trusses are seated on horizontal angle shelves rivetted across the faces of the columns and are continued beyond them and web-connected to the I-beams in the centres of the columns. Besides this the vertical connection plates, which are rivetted to the flanges of each column, are extended beyond the channel webs and rivetted to another pair of short vertical angles on the lower chord of the truss, so that great stiffness is secured in the connection and a large number of rivets would have to be sheared to permit displacement or serious distortion.

The columns are continued 3 feet or more above the roof-truss connections and have cantilevers, brackets and gusset plates for the connections of the horizontal angles, channels, &c., which form the skeleton of the copper cornice and the parapet. In the pediment of the main front, and adjacent to it, in the second storey, there are ornamental granite columns made in short vertical sections, cored out and slipped over centre columns of welded steel tubes. Some of these columns are in pairs, about 3 feet apart, and are 8 inches in diameter and ¾ inch thick. They have bottom flanges made of 5 by 3 by ⅜-inch angles bent to complete circles and seated on special wall-beams just above the regular column struts. The tops of these columns have segmental flanges made of pairs of bent 6 by 3½-inch angles through-bolted to them. An 8 by ¾-inch horizontal cap plate 4¼ feet long is bolted to the flanges, forming a brace to connect the columns and affording a seat in the middle for the end of the roof-truss. The regular column struts are bolted on top of the cap plate and their ends abut on the web of the lower chord of the roof-truss. A horizontal knee-brace with bent plate connections is run from near the end of the truss to the strut over each column, and a short column and bracket are rivetted to the end of the truss to carry the parapet and cornice framework. All window and door openings are spanned by plate girders or beams to which the granite arch voussoirs are anchored. For the wider openings there are plate girders 30 inches deep which are web-connected to the column channels and have solid-web knee-brace brackets under their ends.

The tangent of the slope angle of all the main roofs is 0·7, and of the pediment roofs 0·4. Most of the roof-trusses are A-shaped, of from 30 to 50 foot span, and are rigidly connected to columns at the ends and at one or more intermediate panel points. The top chords form the rafters, and the bottom chords carry the ceiling beams. All the truss members are pairs of angles rivetted together back to back, except the bottom chords, which are pairs of 8-inch channels rivetted together back to back. All connections are rivetted to vertical gusset-plates between the pieces of the different members. The trusses have a simple triangular web system with vertical and inclined members. There is a zigzag diagonal bracing of 3 by 3-inch angles rivetted to the tops of the rafters in the end panels between trusses and in every second or third intermediate panel. The chimneys are of masonry up to the second-storey ceiling; above that each has a framework with four vertical 4 by 4-inch angles rivetted to the roof-trusses, and connected together with horizontal struts and X-bracing of small angles on all sides. These are covered with copper and contain sheet-steel flues.

The purlins are 6-inch 14¾-lb. steel beams, from 5 to 8 feet apart, which are bolted to the top chords of the roof-trusses and braced at every support by a knee-brace plate like an oblique Z bent over the top flange of the beam. Wooden 2 by 4-inch nailing strips are bolted to the top flanges of the purlins, and on them are set 2 by 8-inch jack rafters, 2 feet apart, which are dapped 2 inches at the seats. A solid course of transverse sheating boards ⅞ inch thick is nailed to the jack rafters, and on it is laid a double thickness of tar paper and the roofing slate. Nearly all field connections are rivetted, and have an excess of 25 per cent. over the number of rivets in shop-driven work. The length of all columns and other members was limited to 34 feet for shipment.

Mr. Tokuma Katayama, architect to the Imperial household and architect of the palace of the Mikado, is the architect for this palace He has recently visited the United States and engaged Messrs. E. C. & R. M. Shankland, Chicago, to design the steelwork, for which a 200,000 dol. contract has been awarded the Carnegie Steel Company. Mr. C. M. Wilkes, Chicago, has been retained to prepare plans and specifications for the heating and ventilation, and Mr. R. D. Gottlieb, assistant engineer of the Carnegie Company, will supervise the erection of the steelwork.

SOCIETY OF ANTIQUARIES OF SCOTLAND.

AT the last monthly meeting of this Society Mr. Thomas Ross presided Several papers were read. Mr. W. Rae Macdonald, F.S.A Scot., gave a detailed description, illustrated by rubbings, of the carved armorial ensigns at Elgin Cathedral, the Bishop's Palace, Pluscarden Priory and other places in the surrounding district. Sculptured coats of arms form a conspicuous decorative feature of the fabrics of these and many other ancient buildings as well as on the tombstones in the graveyards of ancient churches, and these last are often of great interest for the genealogical information which they convey. A few of those which are still decipherable are of the fifteenth and sixteenth centuries, but the older ones are fast becoming obliterated, and hence the desirableness of obtaining permanent records of all that are interesting on account of their heraldry, art or inscriptions. In the second paper, communicated by Professor Baldwin Brown, F.S.A.Scot., Miss Armitage discussed the much-disputed question of the nature of the Anglo-Saxon strongholds mentioned in their early chronicles as burhs, and the distinction between them and the early Norman castles. Dealing first with the philological and historical evidence at considerable length, she found that while the general sense of the word burh was a town, its more special sense as an enclosing bulwark does not appear to have been forgotten in Anglo-Saxon times. It was equally clear that a burh was not a castle in the sense in which we use that word, but a fortified enclosure of much larger area, serving for the daily life and defence of a considerable population. The rounded hillock surrounded by a ditch, and having a platform on the top and a courtyard at the base, also ditched about, which Mr. G. T. Clark supposed to be the Anglo-Saxon burh, and which is commonly known as a motte, corrupted into moat, was the original form of castle planted in England by the Norman conquerors. Mr. George Neilson indicated that the conclusions drawn by Miss Armitage were much the same as he had given expression to in an article in the *Scottish Review*, but she had carried the examination further. In the next paper the Rev. J. B. Mackenzie, F.S.A Scot., Kenmore, gave a notice of some cup-marked rocks and stones in that neighbourhood, with notes on the folk-lore attaching to them Not far from the remarkable cup and ring-marked boulder on the hill at Balloch the author had discovered a rock-surface marked with two rows of four and five cup-shaped hollows. The sculpturings on the boulder still show the marks of the tool used, and, like all that do so, they prove that the hollows were picked out with a sharp-pointed tool. The cups in the rock are smoother and do not show the tool marks, nor have they enclosing rings. The tradition about such stones is vague, but they commanded general reverence, and were often invested with curative powers for many diseases. Mr Mackenzie also exhibited a very fine stone, one found at Riskbuie in Colonsay, and a small ornamented stone cup found on the top of Schiehallion, lent by Mr. W. Gunn, Taymouth. In the next paper Captain J. H. Anderson, F S.A Scot, recorded two examples of ring-marked stones, with ducts, but no central cup, and some archaic customs he had met with in Kumaon, India, among which was the use of rock basins, about 6 inches wide and the same in depth, for shelling rice, by pounding it with a pestle, in much the same way as pot-barley was husked in similar stone basins in Scotland. In the next paper the Rev. David Johnstone, minister of Quarff, Shetland, gave an account of the discovery of an ancient cemetery of prehistoric burials in that parish. In levelling a hillock for the plough a crofter came on a group of six cists, from 4 feet long by 2 feet broad, and the same in depth to 22 inches long by 14 inches in breadth. They were carefully made of slabs set on their edges, with the corners jointed with clay, and the covering slab cemented with clay. In the largest cist was an unburnt burial, in one of the smaller cists was a clay urn, and in two others broken fragments of steatite urns. The smaller cists contained ashes, mixed with burnt bones, showing that the burials had been after cremation. Dr. Joseph Anderson described a collection of objects sent for exhibition by the Marquis of Bute, which had been discovered in the course of recent excavations at St. Blane's Church, in the south end of Bute.

REGISTRATION OF ARCHITECTS.

AT the instance of the Society of Architects a meeting will be held at the Grand Hotel, Birmingham, on Friday, April 27, at 6.30 P.M., when members of the Birmingham Architectural Association and others have signified their intention of attending. Mr T Walter L. Emden, J.P., L C.C., president of the Society of Architects, will be the chairman.

Mr. Ellis Marsland, hon. secretary, will read a paper on "The Statutory Registration of the Profession," of which the following is a synopsis:—The Registration movement in 1886—What is Registration?—Registration in the Professions—Why is Architecture not a Profession?—The advantages of Registration—Some objections—How is Registration to be obtained?—The necessary provisions of a Registration Act—Its objects—The Authority to administer the Act—Qualification for Registration—The examining body—Fines upon and disabilities of unregistered persons—The Registration Bill committee—The Bill promoted by them—Conclusion.

Mr. J. Coulson Nicol, A.R.I.B A, will move "That this meeting cordially approves the principle of the statutory examination and registration of architects, and is of opinion that it is desirable in the interests of the public and the architectural profession to promote a Bill in Parliament for the attainment of this object."

Mr. F. W. Franklin Cross, M.S.A., will move "That a copy of this resolution be sent to every member of Parliament within the Birmingham district." A general discussion will follow.

For the convenience of London members and their friends a special saloon at ordinary (third class) fares will be attached to the 1.30 P.M. from Euston on April 27, and to the 5.45 P.M. from L. and N.W.R., New Street, Birmingham, the following day, for a party of not less than ten. Intimations, stating number of party, must reach the secretaries not later than Monday, April 23. The headquarters will be the Grand Hotel, Birmingham, and on Saturday, April 28, a visit will be paid to places of interest in the town, under the guidance of Mr. J. R. Nichols, M.S.A., local hon. sec.

THE FRENCH BUILDING-STONE INDUSTRY.

THE most popular building stone in France, says the *Architects and Builders' Magazine*, is extracted from the vast quarries of Euville in the department of the Meuse; it is especially adapted for important structures owing to its great hardness; it is this kind of stone that is being used in the building of the several sections of the 1900 Paris Exposition. Until recently much difficulty was experienced in the transport of the Euville stone to Paris, but since the Great Eastern Railway constructed a branch line in 1852 communicating directly with the station of Commercy, which adjoins the Euville quarry, the industry has prospered immensely. The first consignment of Euville stone arrived in Paris in 1853, and was employed in the entablature of a bridge over the Seine. Experts and architects as well as builders were not long before discovering the invaluable properties of such a stone, and on the recommendation of several leading builders it was unanimously resolved to employ no other stone in the erection of city houses. To judge of its merits it only suffices to say that the famous Point-du-Jour viaduct at Auteuil, the basement of the Châtelet Theatre, the churches of La Trinité, of St. François Xavier, the Russian Church, the Tribunal of Commerce, the Grand Hotel, the Louvre Hotel and various other first-class structures in Paris are entirely built with Euville stone. It would be a mistake to conclude that this is to be attributed to Government favouritism; no such thing.

The qualities alone of the excellent stone secure its adoption at once, though it is of a calcareous character.

The Euville quarries present serious difficulties for working nevertheless. For instance, it is an open-air quarry, but the layers of stone are of varying depths, frequently from 13 to 17 yards in thickness. Often it is found necessary to clear away overlapping rubbish in order to secure a free space to tap the prime stone. This clearance is costly, as often recourse has to be had to blasting operations. But once laid bare, the subsequent work is free from obstruction. Thirty years ago all quarry work was executed by means of hand labour, the horse and cart removing the rubbish. At that time the blocks of stone when cut out of the mass were simply rolled down the hill or piled up in pyramids until required. On reaching the bottom of the incline, ropes, wooden spars, &c., ultimately placed the stones on the waggons or in barges to be transported to their final destination. It was a primitive process, due to the absence of proper mechanical implements. This was also the period when no stone depôts existed in Paris, and when only two railway termini were provided with cranes to discharge the loaded waggons. To-day all is changed and up to date; the Euville quarries are now worked on the best of modern principles, as far as machinery is concerned. For instance, the débris or rubbish is at once cleared away by the small Decauville railway trucks, drawn either by a locomotive or by horses. The free rock is divided as it were into so many blocks or pyramids by natural and separated crevices; wedges uplift these blocks of stone and cut them into natural sizes. The average volume of these blocks varies from 5 to 10 cubic metres. Aided by immense grips or pinchers, like what are in use for seizing blocks of ice, and by wedge arrangements placed around and under the selected blocks, the latter are duly extracted from their bed, pushed on to rollers until the huge mass is brought under the action of cranks and sizing machinery. In order to impart a rectangular shape the quarrymen, after outlining the block roughly, submit the stone to successive operatives, who give the stone the geometrical form required, and also a polish for the building in construction. All these finished stones are then numbered and marked to correspond with the plans of architects and builders. The powerful saw-mill at Euville of 100 horse-power, of course, simplifies the operations for supplying the stones to be cut following instructions. The systems of sawing adopted at the Euville works are of two kinds, consisting of the ordinary blades and the fil-helicoidal. The latter apparatus has three iron or soft steel screw wires, having a diameter of 6 millimetres. Each wire is plaited like a cord, in such a manner as to form a long rope; by this means it is easy to cut or separate the block directly. What is the extent of the Euville quarries? They are consolidated or grouped over an area of about 660 yards long by 550 wide, and situated within a distance of 3¾ miles from the despatching station of Commercy, and 2½ miles from the two ports of expedition situated on the Eastern canal, a navigable highway sufficiently deep to admit of barges of a tonnage of 250 tons. The Euville stone, as already remarked, occupies a prominent part in the various edifices, &c., now in course of construction for the 1900 World's Fair, notably the building of the two imposing palaces in the Champs-Elysées. The basement of the Petit-Palais, as well as the intermediary portions of the Grand-Palais are in Euville stone; while the choice of that latter stone for moulding purposes is due entirely to its remarkable consistence, fine grain and durability.

Paris, it is admitted, enjoys the reputation of being, if not the most artistic, at least the best built city in the world. This enviable and proverbial reputation is entirely due to the excellent material employed in both the construction of houses and of public buildings. Stone is invariably employed; consequently the majority of all French houses are built so as to last two or three centuries. Ever since the Roman era, Lutèce—as Paris was then called—formed the object of monumental splendour. The emperor Julian did much towards enlarging and embellishing the French capital. This fact may well explain why Paris to-day constitutes the head-centre of the building-stone industry, and why quarries throughout the country are held in such marked repute. Of course, stone was not always employed; at one time almost every kind of material was in request, provided it was convenient. Paris in this respect proved specially favoured; therefore there was such a demand upon its suburban quarries when they were discovered. It may not be generally known that the majority of the materials employed to build the city of Paris were extracted from the calcareous rocks beneath the capital itself, so that the "City of Light" may well be said to have been built wholly out of its own mineral resources. Some of these suburban quarries are not only historical, but their origin dates as far back as twenty centuries; their supply is not yet altogether exhausted, though prudence dictates not to undermine or tap them any longer. The principal and most ancient Parisian quarries are those situated close by the Panthéon, in the St. Jacques district, where enormous excavations are still visible. It was from these quarries that the greater part of the stone was obtained in the Middle Ages to build the cathedral of Notre-Dame. The famous Catacombs themselves are but exhausted quarries. In 1786 M. Lénoir, lieutenant-general of police under Louis XVI., decided upon utilising these deserted quarries as a depôt for the collected bones of the city cemeteries. Thus the contents of the Charnel-house des Innocents and kindred cemeteries were gradually transported to the Catacombs, and to-day form massive walls and ranged alleys of skulls and bones

That handsome edifice, the Trocadéro, so much admired in 1878, and which formed the clue of the exhibition, was constructed over ancient quarries, while its adjoining aquarium was actually built from the same materials. The Commissioners of the 1900 Paris International Exhibition have had under consideration a project tending to utilise more of these quarry sites close to the Trocadéro and convert them into subterranean workshops, theatres and museums. The left bank of the river Seine is especially noted for its ancient quarries The latter are now in use; they are hired out to market gardeners who therein cultivate the finest of mushrooms. However, as these Parisian quarries are almost exhausted, the municipality has had recourse to other quarries situated at Saint-Cloud, Meudon, Conflans and Isle-Adam. The outputs of the Château-Landon quarries were thus employed to build the Arc de Triomphe; those from the Soissonnais built the famous St. Clotilde Church. However, too much was expected from these suburban quarries; their resources became exhausted sooner than was expected. Consequently the Municipal Council of Paris is to-day compelled to fall back on quarries situated in the departments. Owing to the several facilities of transport, no inconvenience is experienced at present in the conveyance of such stones to the metropolis, irrespective of distance; while their weight counts for little, so perfect is the machinery employed for their handling.

BRISTOL SOCIETY OF ARCHITECTS.

THE annual general meeting of this Society was held at the Fine Arts Academy, Queen's Road, on the 9th inst., Mr. W. L. Bernard presiding. The report for the session was presented to the meeting and adopted A satisfactory increase in membership has taken place during the past year, and various papers on artistic and technical subjects have been read at the monthly meetings. The by-laws have also been entirely revised, and, after approval and confirmation by the Royal Institute, will be in force next session. The balance-sheet showed that the funds of the Society are in a satisfactory condition, and the auditors (Messrs. Nicholson and Weston) were re-elected. It was decided to make an annual grant to the Architects' Benevolent Society, and to discharge the liabilities of the Book Club. The voting for officers resulted in Mr. Frank Wills being elected president, Mr. G. H. Oatley and Mr. Joseph Wood (re-elected) vice-presidents, and the honorary secretary and treasurer, Mr. H. Dare Bryan, was again unanimously re-elected

Mr. Frank Wills, in succeeding Mr. Bernard in the presidential chair, alluded to the years of valuable work that the retiring president had devoted, not only to the interests of the Society, but to all matters affecting the well-being of the profession in the district.

A hearty vote of thanks to the late president was formally moved by Mr. Joseph Wood, seconded by Mr Harold Smith, and carried with acclamation; and upon the proposition of Mr. M. A. Green (Bath), seconded by Mr. G. H. Oatley, a similar vote of thanks was passed to the hon. secretary for his labours on the Society's behalf

This was supported by the President, and carried with acclamation, and the proceedings then terminated.

The Lord Mayor, accompanied by the sheriffs, will attend in state to lay the foundation-stone of St. Cyprian's Church, Brockley, S.E., on Saturday, May 12. The church is being built under the auspices of the Lewisham Church Extension Association.

Sir Alma-Tadema, R.A., is now in Rome. According to the correspondent of the *Pall Mall Gazette* the well-known architect, Commendator Azzurri, gave a banquet in his honour, at which all the notabilities in the Roman artistic world were present. There was the genial Monteverde, Italy's greatest sculptor; Maccari, whose frescoes have rendered the Roman Senate famous; Vallegas, the great Spanish painter; Bompiani, the portrait-painter; Gallori, sculptor, and president of the International Artistic Association, and many others too numerous to mention.

NOTES AND COMMENTS.

The report of Mr. Ross on the works executed by the Public Health Department of the London Corporation is interesting for many reasons. People who live north of the Thames will be glad to hear that the Corporation have asked themselves the question why gas should be nearly 3*s.* per 1,000 feet in that region, while on the south side it costs 2*s.* 1*d.* per 1,000. The extra price means a difference of 800,000*l.* against northern Londoners. Gas companies are supposed by some authorities to be almost omnipotent in Parliament, and measures for dealing with the light are difficult to carry through both Houses. But when the Corporation declare it is clear that the Gas Light and Coke Company must either reduce its charge, or, in common fairness to the citizens, competition must be allowed, at least to the extent of permitting the South Metropolitan Gas Company to cross the Thames and supply those who desire it with gas at 2*s.* 1*d.* per 1,000 feet, it is plain reform is not far off. Street improvements can with difficulty be accomplished in the City owing to the value of property. It appears that during the past year the claims settled amounted to 146,000*l.*, which was 47,000*l.* less than the sums sought. At the end of the year there remained claims amounting to 382,000*l.* to be considered. Yet the improvements to be carried out will not much affect the character of the streets. The prejudice against subways appears to have been overcome. There are now about 2,540 yards under streets in the City, and the report says the usefulness of the subways is evidenced by the fact that in the streets beneath which they have been constructed no openings have been made for access to pipes, &c., except those for taking pipes into the ends of the subways, since they were constructed. Greater care is now taken in cleansing the surface of the streets. During last year 29,439,551 gallons of water were used for them. Although a reduction in price was obtained from the New River Company, the Corporation water bill amounted last year to 3,737*l.*

It seemed to be a ridiculous arrangement when masculine school inspectors were directed to examine children's needlework as part of their duties. To see so tall and awkward an official as the late Matthew Arnold assuming an extra amount of gravity when he scrutinised stitching was a spectacle which was enough to delight all Philistines and the young lions of Fleet Street. It would have been possible for the Government of that day to have found efficient inspectors, at least for the higher branches of work, among architects. There is nothing absurd in their giving attention to the subject. Strange as it may sound to outsiders, there are many analogies between needlework and building. Semper says that coarse tissues or woven work preceded the constructed wall of stone, and the survival of ancient arrangements is preserved in the German word "wand," which signifies both a wall and a textile. But what is more essential is that stitches of all kinds must resemble ordinary bricks. Just as a right line is the shortest distance between two points, so is a stitch or the edges of a brick. Several Gothic architects realised the relationship to the fullest extent. Mr. Street's letters from continental towns prove that he gave as much attention to the embroideries he found in the treasuries as to the construction of the churches. Mr. Butterfield also suggested the importance of the art of needlework, and indeed some of his decorations might have been derived from ancient textiles. The majority of embroiderers and designers do not comprehend the connection between masonry or brickwork and tapestry, using the word in its widest sense. With great difficulty it is possible to have polygonal or circular stones or bricks, but it is a waste of labour. But in stitchery of all kinds a pure curved line is impossible. Several stitches may be made to appear like a curve, but at best they are only a combination of several right lines. The Easterns have realised that fact, and in the greater part of their woven work and needlework the straight line is frankly recognised as the element. In England there is not the least hesitation about the imitation of designs which have been drawn or painted with a free-hand. Hence it is that so many exhibitions of needlework, old or new, are painful to behold. Mr. L. F. Day and Miss Buckle, in their "Art in Needlework; a Book about Embroidery" (B. T. Batsford) have the great merit of insisting on the inevitableness of the square line; for the neglect to do so has made an immense amount of work to be labour in vain. Very many illustrations of ancient and modern attempts are given in the pages, but the majority of them it must be said are only endeavours to compete with a mode of representation which can be produced with more facility and with more effect by other means. Rightly used the volume can produce a beneficial effect on a class of work which has now many followers, but it would have been better if a more decisive tone were adopted in condemning several of the specimens introduced, regardless of the popular names attached to them.

In Ithaca there are ruins which are known as the Castle of Ulysses. Although cyclopean walls with gate-openings are found, and the site, which is about 400 feet above the sea, was adapted for the residence of a pirate chief, many archæologists have been doubtful whether the identification of the place should continue to be accepted. Professor Dörpfeld, the German architect, has been provided with sufficient funds by a Dutch gentleman to undertake a more complete exploration than has hitherto been attempted. Several years ago he had examined the island of Ithaca, and he fixed on a site in another part of it. But he has since come to the conclusion that the residence of Ulysses is not to be found there, but in the island of Leucadia or Santa Maura, and near the town of Leucas, which some have identified as the Homeric Nericus. Leucadia has poetic associations, for from one of the cliffs Sappho committed suicide. In some ways Leucas corresponds more exactly with the description in the Odyssey than Ithaca. But it will be very difficult to persuade scholars to abandon a tradition which is so ancient; however, since Dr. Dörpfeld and his fellow-countrymen have been able to convince the world about other conclusions which were no less surprising he may be successful in this case also. It may be added that the members of the German Archæological Institute in Athens have arranged this year for a most important tour in Greece. On the 24th inst. Leucas will be visited, and the subject will be discussed by the members, including many learned archæologists from various parts of Germany and Austria.

ILLUSTRATIONS.

WESTMINSTER ABBEY: CHAPEL OF ST. EDMUND, LOOKING NORTH-WEST. CHAPEL OF THE PYX. ENTRANCE TO LITTLE CLOISTER.

In the illustration the most prominent object is the tomb of Edward, Earl of Shrewsbury, and his Countess Jane, which dates from 1617. It is a fair example of the later Renaissance work in which architectural forms were liberally employed in order to dignify the dead. But the subservience of the authorities of the Abbey and their indifference to its state are suggested when we find the walls and arcading were cut into without mercy, in order that the monument might gain more effect. Seeing such havoc, who can wonder if similar memorials are regarded with little reverence? In contrast with the arched structure of the Talbots, how superior becomes the tomb of William of Valence, Earl of Pembroke, which is more than three centuries older. He was half-brother of Henry III., and enjoyed an extraordinary amount of royal favour. He died in 1296. It is not difficult to imagine the appearance of the tomb before it suffered dilapidation from the hands of vandals. The figure of the prince was gilded and enamelled, and the shield displayed his heraldic colours. The oak coffer on which the figure lies was undoubtedly adorned with enamels which Limoges, with which he was connected by family ties, would contribute. The lower part of the monument is adorned with shields which originally must have presented glowing colours and gilding. On the other side of the entrance, but not seen in the illustration, is the tomb of John of Eltham, second son of Edward II. When Dart wrote his history of the Abbey the tomb was covered with a canopy of eight arches, which was allowed to remain until 1776. The brasses are those of Archbishop Waldby of York and Eleanor de Bohun.

ST. OLAVE'S GRAMMAR SCHOOL

ST. JOHN'S, HAMPSTEAD, PUBLIC LIBRARY.

WESTMINSTER ABBEY IN 1734.

THE following criticism on Westminster Abbey is extracted from a collection by Tamer Ralph, an American, and friend of Benjamin Franklin, who as an amateur gave some attention to the public buildings of London :—

Henry VII.'s Chapel has an undoubted right to be taken notice of in a very particular manner, as being one of the most expensive remains of the ancient English taste and magnificence. To be sure there is no looking on it without admiration, but then its beauty consists much more eminently in the workmanship than the contrivance, which is just the reverse of what it ought to be.

The proportion and harmony of a plan is the first grand secret in building ; nicety and point in execution the last. Thus it happens that the edifice before us has nothing in its form to surprise or charm, and all the expense of art, which is lavished away upon it, only excites pity that the subject deserved it no better.

I am very sensible I run no small risk of being censured for making so free with so celebrated a pile as this ; but as I profess myself clear of all prejudice and only in pursuit of truth, so I shall take all the liberties which are of a piece with such a character and resolve to be governed by reason and judgment only.

On these principles, therefore, I will boldly affirm that nothing could be more absurd than erecting this fabric at the end of the abbey, it now serving only to spoil the symmetry of both and make a botch instead of adding a beauty ; if there were any point of view where both these pieces might be seen together the truth of my assertion would be apparent, and as it is, a little imagination will answer the same end

Let us further add that, by this unnatural conjunction, the whole magnificence of front which might have been given to this costly chapel is entirely lost, and those who admire it most implicitly and devoutly cannot help inquiring for an entrance suitable to the rest of the structure.

Let us for once then suppose that it had been entirely detached from the abbey and erected opposite to the House of Lords, with a sumptuous front to the street ; let us suppose the new Parliament House finished on the other side, and the before mentioned vista laid open to the new church, and the consequence would then be another group of beauties in building and decoration, which few cities in Europe could parallel.

By the many things I have said of the advantage of space before a building, in order to add magnificence to the view, nobody will wonder, I presume, that I am for levelling the Gate House, demolishing a large part of Dean's Yard, and laying open the street at the west end of the abbey, at least to an equal breadth with the building. I must frankly own nothing appears so miserable to me as such encumbrances round a grand or elegant building ; they abate the pleasure of the prospect most exceedingly, and are real disadvantages to the builder's fame.

Westminster Abbey is a fabric of great antiquity, and challenges some kind of veneration on that account ; it is besides of prodigious bulk, and fills the eye at least, if it does not satisfy it ; to glance at it in the landscape, without examining its parts, it pleases tolerably well ; to examine its parts we are under a necessity of disliking the whole ; if the height surprises we are out of humour with its form, and the fronts in particular ought to have rose eminently above the rest in order to have varied the lines and given that grace it so visibly wants. We now rather think of a barn than a church ; I believe this image is owing entirely to the extreme sharpness of the roof, and if that was rectified it would be greatly to the advantage of the building in general. It must be owned, indeed, that the west end was never finished, and there is much reason to believe that the two towers on each side of it were designed to give the elevation it is now so apparently defective in.

There is indeed a rumour about the town that the Dean and Chapter still design to perfect this scheme and raise the towers according to their first projection, but I think it is rather too late to begin, for unless they would new-case the church all over the mixture of the new and old would have a worse effect than the defect we complain of, and make a sort of patchwork in building which is ever offensive both to judgment and taste.

As to the inside of the church it is certainly more perfect and judicious than the out ; the perspective is strong and beautiful, and strikes the spectator in a very forcible manner as soon as he makes his entrance, and yet it owes the greatest part of its effect to a fault in symmetry. It is the exceeding height of the grand aisle which gives the astonishment, but if that was only in exact proportion to the rest of the parts it would not be distinguished so much, and yet would deserve much greater praise.

Some of my readers would perhaps take it ill if in this place, and writing on the curiosities of the abbey, I should not say something in honour of the fine wax-work figures which are placed so curiously up and down this venerable building, particularly the King William and Queen Mary, which have been lately so amicably shut up together in the same box. To oblige them, therefore, and in compliment to the reverend Dean and Chapter, who permit these noble decorations, I will throw away a moment or two in giving my opinion of them. In the first place, therefore, with all submission to better judgments, I think they are ridiculous and unnatural in themselves, expressing neither figure like statuary, nor colour like painting ; secondly, I am humbly of opinion that they would become a puppet-show better than a church, as making a mere farce of what should be great and solemn ; and, thirdly, I think them highly injurious to the characters they represent, as showing them like jointed babies, to the stupid admiration of the vulgar and the contempt of men of sense, instead of characterising their persons and perpetuating their virtues.

For all which, and many more reasons, I beg leave to move that the whole present set of waxen worthies may be demolished without benefit of clergy, and that all their present patrons and abettors may be substituted in their place ; and that, as fast as any future reverence should endeavour to seduce his brethren to the like idolatry, he should be immediately chronicled in wax, and shown with a cap and bells, to distinguish the extent of his understanding and the perfection of his taste.

The enclosure behind the altar, commonly known by the name of St. Edward's Chapel, has nothing very remarkable in it but certain Gothic antiquities, which are made sacred by tradition only, and serve to excite a stupid admiration in the vulgar. There is, indeed, at the end of this place a sort of gate to the tomb of Henry V. which was intended for a piece of magnificence, and no cost was spared to make it answer that design ; but the taste of it is so unhappy and the execution so wretched that it has not the least claim to that character. The tomb of that prince challenges attention only because it was his, and because the statue on it has lost its head ; to account for which singular injury we are told a ridiculous tale of its being silver, and that the value of it occasioned the sacrilege.

One thing, it is true, we meet with in this place which merits a peculiar regard ; that is, a wooden chest of bones, said to be the remains of Catharine, daughter of the King of France and consort of Henry V. If this account is authentic, I think nothing can be a greater violation of decency or more injurious to the memory of such illustrious personages than to expose their relics in so licentious a manner, and make a show of what once commanded respect and adoration. If the clergy are advocates for the decency of burial, as no doubt they are because of the profits which attend it, why do not those who have this church under their care comply but with their common tenets, and grant this indulgence to the ruins of majesty? To be sure I can have no other answer but this, that they bury some for gain and some they leave unburied for the same reason.

It is beyond controversy that there is something extremely shocking in this violence to the secrets of mortality ; the ancients had even a superstitious regard for the dust of their ancestors, and surely we are under some obligation to treat ours with good manners ; and how the reverend Dean and Chapter can reconcile this principle with their conduct I leave to the most learned casuist among them to determine. If they would hearken to my humble advice they would not be so very intent on worldly interest as to neglect worldly reputation ; reputation is interest too, and such trespasses as these in the eyes of men of delicacy and understanding are not easily forgiven or forgot.

The arch at the entrance of Henry VII.'s Chapel is exceeding grand and ornamental ; the steps underneath are a fine preparation for the scene at landing, and the three doors an admirable expedient to favour the perspective within ; but this and several other beauties are utterly spoiled by the stalls which cut off the collateral aisles of the chapel entirely, and thereby spoil the beauty and symmetry of the whole.

The roof of this structure is certainly one of the finest things in the world, I mean in the Gothic style ; nothing can be in a better form or more richly decorated. Perhaps had it been more simple it had shown to greater advantage ; but still it is a wonder that one continued cluster of ornament could be contrived to please so much and answer so well.

Were the absurd partitions mentioned above thrown down, the roof would appear still more surprising, and the area before more spacious and proportionable ; all those tombs which are now shut up in such a manner that they are nowhere to be seen as they ought would then come forward to the eye and give an additional grandeur and solemnity to the scene ; the perspective would be finely broke and every object properly terminate in the founder's mausoleum as the principal point of the whole view.

There are few tombs in Europe more famous than that o Henry VII., neither, indeed, are there many which deserve to be more so. The undertaking in itself was vast and surprising, the cost prodigious, and the execution exceedingly difficult and laborious. And yet the artist has succeeded in it to admiration; there is hardly a part in it that is not excellent, from the chief figures to the minutest point of the decoration. The statues of the king and queen are grand and noble, and the bas-relief on the sides below beautiful and expressive. I am of opinion the workman, whoever he was, was equal to the noblest scheme of this nature, and would have made a figure even amongst the ancients. What a pity it is, therefore, that such a genius and so much art should be lavished away on a thing entirely out of taste, and which, at the same expense and study, might have been made the wonder of the world. To explain myself further on this head, nothing can be more stupid than the laying statues on their backs in such a situation that it is impossible they should ever be seen to advantage, and of course that all their perfections must be utterly thrown away. In the next place, the brazen enclosure which surrounds this tomb, wonderful as it may be considered by itself, is a monstrous blemish with regard to the thing it was intended to preserve and adorn, because it rises abundantly too high, and intercepts the view entirely from the principal objects.

Without doubt, the statues of the king and queen ought to have been in living attitudes, erect and bold, and the decorating figures should have formed a corresponding group, which in every light should have stood the test of criticism and given the spectator an entire satisfaction; a few more steps, too, should have been added to raise the foundation higher, a magnificent arch might have been thrown over all and the boundary below should have been only a guide, not an encumbrance, to the prospect.

Yet, erroneous as the taste of this fine monument may be, it may be called excellent to that which prevailed several years after in the reign of King James I., as may be seen by the wretched things which were erected at his command to the memory of Queen Elizabeth, and his mother, Mary, Queen of Scotland. In these all the blunders that can be imagined are collected together; want of attitude and expression, harmony and proportion, beauty and decoration; nay, the very columns which support the superstructure are of different sorts of marble, and to make the figures splendid and natural they are painted and dressed out to the life as if they were just retired from a drawing-room, and laid down there for a little repose.

But these whims seem to be again out of repute in the reign of his son, as appears by the monuments of the Dukes of Richmond and Buckingham; in these there are several fine figures in brass and something like meaning and design, though even then they had not learned to distinguish the principal characters and place them in such attitudes as should command the spectator's first and last attention and regard.

Both these faults are entirely avoided by Rysbrack in the monument erected in the honour of the late Duke of Buckingham; there the Duke himself is the principal figure in the group, and though he is in a cumbent posture and his lady in the most beautiful manner sitting at his feet, yet her figure is characterised in such a manner as only to be a guide to his, and both reflect back a beauty on each other. The decorations are exceedingly picturesque and elegant, the trophy at his head, the finger of Time above with the medals of his children fill up all the spaces with so great propriety that as very little could be added nothing can be spared. In a word, I have yet seen no ornament that has pleased me better, and very few so well.

I will conclude my remarks on the abbey with some brief reflections on the use of sepulchral monuments in general, which will at once serve to illustrate what has been said on the tombs already erected, and likewise be of some service to the statuary in designing those which may succeed hereafter.

However amiable fame may appear to the living, it is certainly no advantage to the dead; whatever danger they have dared, whatever toils they have undergone, whatever difficulties they have surmounted, the grave is deaf to the voice of applause, and the dust of the noble and vulgar sleep in the same obscurity together. It is possible the conscious spirit may have an idea of the honours that are paid to his ashes; but it is much more probable that the prospect of this imaginary glory, while he lived among us, was all the pleasure it ever could afford him. I make this observation because most monuments are said to be erected as an honour to the dead, and the living are supposed to be the least concerned in them, whereas, on the contrary, there are few but what were rather founded in compliment to the builder's vanity than in respect to the name they are inscribed with. One man's fame is made the foundation of another's, who ordered this sentence to be made his epitaph: Here lies Sir Philip Sidney's friend. Some there are that mention only the names of the persons whose dust they cover, and preserve a noble silence with regard to the hand who raised them; but even here the dead can receive no benefit from such disinterested affection, but the living may profit much by so noble an example. Another thing that displeases me is the manner of the inscriptions, which frequently mistake the very design of engraving them, and as frequently give the lie to themselves. To pore one's self blind in guessing out "Æternæ memoriæ sacrum" is a jest that would make Heraclitus laugh; and yet most of them begin in that pompous taste, without the least reflection that brass and marble cannot preserve themselves from the tooth of time, and if men's actions have not guarded their reputations the proudest monument would flatter in vain.

I do not say these things because I am an enemy to the custom; so far from it, no one can admire it more, but what I intend is to place everything on its right principle, and recommend the properest means for the consequence. It is certain there is not a nobler amusement in the world than a walk in Westminster Abbey, among the tombs of heroes, patriots, poets and philosophers. You are surrounded with the shades of your great forefathers; you feel the influence of their venerable society, and grow fond of fame and virtue in the contemplation. It is the finest school of morality, and the most beautiful flatterer of the imagination in nature. I appeal to every man's mind that has any taste for what is sublime and noble for a witness to the pleasure he experiences on this occasion, and I dare believe he will acknowledge that there is no entertainment so various or so instructive. For my own part, I have spent many an hour of pleasing melancholy in its venerable walks, and have been more delighted with the solemn conversation of the dead than the most sprightly sallies of the living. I have examined the characters that were inscribed before me, and distinguished every particular virtue. The monuments of real fame I have viewed with real respect, but the piles that wanted a character to excuse them I considered as the monuments of folly. I have wandered with pleasure into the most gloomy recesses of this last resort of grandeur to contemplate human life, and trace mankind through all the wilderness of their frailties and misfortunes from their cradles to their grave. I have reflected on the shortness of our duration here, and that I was but one of the millions who had been employed in the same manner in ruminating on the trophies of mortality before me, that I must moulder to dust in the same manner, and quit the scene to a new generation without leaving the shadow of my existence behind me; that this huge fabric, this sacred repository of fame and grandeur, would only be the stage for the same performances, would receive new accessions of noble dust, would be adorned with other sepulchres of cost and magnificence, would be crowded with successive admirers, and at last, by the unavoidable decays of time, bury the whole collection of antiquities in general obscurity and be the monument of its own ruin.

Yet in spite of these sage reflections, this plain prospect of general decay, I must own it is a great pleasure to me to see a new statue added to the last, to see another name of glory increasing the catalogue; it is a taste I am particularly fond of and what I congratulate the present age for encouraging so much. I am always one of the first to survey a new monument, to criticise on its beauties and point out its defects. I have sometimes the pleasure of observing a beauty and often a fault in our modern artists, and should be glad to take an occasion of applauding the first and mending the last. I would have all works of ornament perfectly beautiful and elegant or else they disappoint the very intent of their being. I would have all statuary, in a peculiar manner, excellent. A polite people are most distinguished as such by their buildings, their statues and their inscriptions; and I am sorry to say it, we are generally defective in all. There is one noble lord amongst us, indeed, who has taken great pains and been at vast expense in improving our taste in one of these particulars; but I do not find so eminent an example has influenced many more to an emulation of what has done him so much honour. In a word, sepulchral monuments should be always considered as the last public tribute which is paid to virtue, as a proof of our regard for noble characters, and most particularly as an excitement to others to emulate the great example. In a word, I cannot look upon that which is raised over the ashes of Sir Isaac Newton in any other light; his honours were all owing to his own merit, neither is it in the power of the finest statue or the sublimest inscription to afford him any addition. Had his remains rested without a name, like Milton or Shakespeare or Shaftesbury or Nassau, it would have been a new reproach to an ungrateful people, but no injury to him. On the other hand, the utmost magnificence of funeral honours would only be a credit to us without doing him any service. Having lately observed that this stately mausoleum had made the entrance into the choir irregular, it was answered that if we waited with an equal name among the moderns to make it uniform, it would hardly be so to eternity, and if an inferior was to be ranged with him, it would be a disadvantage to both. It is most certain that there are few characters that approach anything near to an equality, and the many vain trials that have been made for his epitaph are the highest compliment to his desert; it is a proof that language was too weak to express it, and hyperbole itself too faint for the admiration that was due to his accomplishments.

MODERN HOSPITAL CONSTRUCTION.*

It has been said that hospitals are the measure of the civilisation of a people. San Francisco intends to enhance its reputation by the erection of a new hospital, replacing one which reflects rather unfavourably on the standard of this community. It may, therefore, be of some timely interest to discuss hospital construction, and I propose to do it at the hand of the plans submitted in the competition for the City and County Hospital.

I have looked over these plans rather carefully. It is my present business to criticise other architects' work. A gentleman recently said to me when I first met him, "I did not know that there is such a personage as an architectural critic." The gentleman is in some way right. Architectural criticism is in its very infancy. Few, indeed, are the architectural critics who possess in an adequate degree those four indispensable qualities—knowledge, honesty, courage and sympathy. As an editor of an architectural publication, I must necessarily be an architectural critic. I must be able to discriminate what is appropriate, characteristic, original and practical. Such knowledge can only be acquired by having seen much, by a careful study of the axioms, principles and tendencies of architecture in general, and of the pending architectural task in particular. Criticism should not be based on personal opinions and sentiments, but on experiences, facts, principles.

The principles of architectural composition are essentially those of common sense, logical reason, and are, therefore, intelligible to all. They are not absolute and binding laws, but they also cannot be overthrown. If originality is sought by revolution of axioms, only singularity can result.

Before we can enter into a criticism of these plans we must ascertain what are the axioms and principles of modern hospital construction. On what facts are they based and how were they developed? The principles now accepted are thoroughly modern and constitute a new system which has nothing more to do with the old. But there is much interest and profit in studying the history of the hospital, for it teaches us through what processes the present ideas were evolved.

I will therefore start by giving a short history of hospital construction in Europe and America.

All hospitals in the Middle Ages were under the control of the monks. They were unusually large and many-storeyed. The sick were aggregated in them in a most unhealthy way. The best example of these Mediæval hospitals is the famous Ospedale Maggiore, the great hospital in Milan, accommodating 2,000 patients.

In the last century the foundation was laid for a better state of things. The importance of air and sunshine as curative agents began to be properly understood. For example, the Royal Infirmary of Edinburgh, established 1734, had wings only two storeys high containing wards with large opposite windows and a smaller number of beds. In 1764 a small naval hospital was opened at Plymouth, England, having wards in separate pavilions with only twenty beds to the ward. That was the first pavilion hospital. To France is generally accorded the honour of having originated the pavilion system and formally laid down its principles in the famous report of the Academy of Science in 1788. But the story goes that the committee preparing this report visited previously the little pavilion hospital at Plymouth and from it took the leading ideas of their report. Yet it cannot be denied that it was a Frenchman, Ténon, who treated the subject scientifically. His report presented to the Academy forms the foundation of the present system. It advocated the one-storey pavilion.

It was not until the middle of this century that the first pavilion hospital of any importance, the Lariboisière, in Paris, was completed. Against the dicta of Ténon, it was three-storeyed. It marks, however, the beginning of the present era. It reflected back upon England, where the Crimean War caused the erection of the Herbert Hospital, the first important example of the detached pavilion plan.

Hospitals are indeed the result of wars. The American Civil War produced the temporary barrack hospital, and the Austro-Prussian War had its effect in Germany in the first hospital built according to the new American plan—the civic hospital in Leipsic with fourteen one-storeyed pavilions.

The Franco-German War has given another impetus to hospital reform, and Germany took the lead in Europe in carrying out the new principles. An interesting example of this influence is seen in the Berlin civil hospital, accommodating 600 patients. It was wisely decided to erect it outside the city in a beautiful park. It consists of ten large pavilions, and two smaller ones reserved for contagious cases. This is one of the most perfectly organised hospitals. Fault, however, is found with it because the buildings have projections which interfere with the circulation of the outside air, and because they have two storeys. Another noteworthy hospital was built at the same time in Berlin—the military hospital at Moabit for 510 sick and wounded. This is also located outside the city. The system of detached buildings has been applied here in the most thorough fashion. The principal wards have but sixteen beds, the others six, three or two.

The new civil hospital in Hamburg is the most noted and the largest in Germany. It accommodates fifteen hundred patients, and is spread over an area of nearly 45 acres, situated about three miles north of the city. It comprises eighty-three detached buildings, of which fifty-five are destined for the accommodation of patients. All are built in brick, and are placed parallel to each other. They have at each end projections which, however, do not facilitate the circulation of the outside air. The pavilions as well as the service buildings are connected by covered ways. The wards consist of only one floor above the underground basement. The buildings form three series. The first series is intended for thirty-three patients, the second for fifteen, and the third for six patients only. The most important improvement introduced into this hospital consists in the method of heating, effected by the circulation of steam through pipes placed beneath the mosaic floors, which are thus raised to a temperature of 70 degs. Fahr. It is in fact an experiment on a large scale of the system of heating by floor or indirect radiation, which is the most effectual of all, though not the cheapest. Notwithstanding its great cost, this system should be considered for all new hospitals.

In Belgium the hospital question has received great attention. The new hospital at Ghent is especially noteworthy. The buildings have smooth walls, destitute of all projections, and are one-storeyed.

In Holland we find one of the most curious hospitals, the Antwerp (*sic*) civic hospital. The chief feature is the adoption of the circular ward form. Great interest and controversy have been excited by this new form of construction. It was not without difficulty that the architect of this hospital succeeded in having it adopted.

There is nothing of note in regard to Austrian, Swiss, Italian and Spanish hospitals, all being built according to old-fashioned ideas.

Hungary possesses two interesting examples in Budapest. The St. Stephen's Hospital comprises eight large detached buildings, accommodating 650 patients. A feature of this hospital is that it was the first allotting wards to special diseases.

The St. Elizabeth Hospital in Budapest occupies an elevated position on the right bank of the Danube, and is built on the detached system. The various buildings have only one floor above the basement. The buildings are not connected by passages.

In the northern part of Europe we find good hospitals in Denmark, Sweden and Russia. The Copenhagen hospital is built after the one-storey pavilion system. The various buildings have no connecting passages.

Moscow, in Russia, possesses a military hospital which is unique of its kind because of the open-air treatment of the patients in summer time. The city of St. Petersburg has started on the road of progress by putting into practice a principle which ought to be adopted by every great city—that is, no more hospitals within the city limits, but only emergency stations. The patients are removed to large establishments in the country. This is an excellent system for the patients, but of some inconvenience for the doctors. The means of rapid locomotion, however, overcomes this inconvenience more and more, and I understand that Berlin and Paris will soon follow the example of St. Petersburg.

The modern English hospitals do not show any special features. They are carefully constructed and every contrivance is utilised to facilitate the service. The finest is the St. Thomas Hospital, in London, on the right bank of the Thames. It presents to the river a long line of large buildings. The wards are superposed. This is the weak feature of all the hospitals in the heart of populous districts where the space is limited.

The system of superposed wards has also been followed in the erection of the hospitals of the city of Paris. It is curious that the city where the new principles found their first expression more than one hundred years ago has the worst types now in existence. The Salpêtrière Hospital is the largest hospital in the world. It has space for six thousand beds, which represents a fearful aggregation of sickness in the centre of a great city. The new Hôtel Dieu in Paris is generally acknowledged to be one of the worst examples in modern times. Its construction was carried on under great opposition of medical authorities. The plan does not differ much from the plan adopted for the Ospedale Maggiore, in Milan, four hundred years ago. Hygienists did not fail to criticise this system severely for two reasons—the excessively large number of patients and the unsatisfactory arrangement of superposed wards. Partial satisfaction was given to the wishes of medical men—the height of the building was limited to two storeys. Important improvements were made in the interior. The ceilings of the wards were given the form of an arch, the corners were rounded, the walls oil-painted and polished. Frequent cleaning was thus rendered easy. A large amount of money was expended, and yet, after all, the degree of perfection aimed at was by no means attained, and a high rate of mortality prevails.

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* A paper read by Herr Max Junghaendel, architect, before the Technical Society of the Pacific Coast in the Academy of Science, San Francisco, and published in the *American Architect*.

The costly experiment made in Paris gave rise to a reform of hospital construction in France which comes near to a revolution. It found its best expression in the system named after the French engineer, Tollet. The essential features of the Tollet system are that it provides for the division of the sick into small numbers, and of their placing in one-storey buildings raised high above the ground. There are quite a number of hospitals built after the Tollet system. I mention here only the military hospital at Bourges and the civil and military hospital in Montpellier. In recent years the Tollet system has been utilised for new hospitals in Paris, Havre, Epernay; for a new hospital in Madrid, Spain, and also for one in America—the army and navy hospital in Hot Springs, Ark.

The first great hospital founded in America was the Pennsylvania hospital in Philadelphia. It was Benjamin Franklin who aided in securing its charter as far back as 1751.

The general hospitals of a permanent character built before the middle of the present century—the Pennsylvania Hospital, the New York Hospital, Massachusetts General Hospital—were upon the block or corridor plan. The Philadelphia Episcopal Hospital and the Boston City Hospital were the first permanent ones in America having detached pavilions connected by corridors.

Soon after the beginning of the Civil War extensive hospital accommodations became necessary. The necessity of frequent changes of location developed a remarkable system of temporary structures. The essential feature of this system was the barrack plan of long wards in one-storey wooden pavilions. The results with these hospitals were exceedingly favourable. The doctors became fond of them, and it became one of the dicta of hospital construction that all new hospitals should be pavilions of a temporary character.

A modification of these views, however, is now generally accepted. It is at present regarded as more practical to construct permanent buildings, these being in the long run more satisfactory, economical, and much more comfortable. The results of these experiences gave a great impetus to the progress of hospital reform. Several permanent pavilion hospitals have been built in the last decades.

The most notable of modern hospitals in this country and which we can fully consider as model institutes, not surpassed by any European, are the Johns Hopkins Hospital in Baltimore, the Boston City Hospital and the Cleveland City Hospital.

The very latest and, I dare say, the least satisfying great hospital is the St. Luke's Hospital in New York, a six-storey structure. It is now two years in use, fitted up with the latest improvements in sanitation, ventilation and heating, yet the complaints of medical authorities are numerous, and the rate of mortality among its inmates is high. Its construction is entirely in opposition to the laws and principles laid down by modern sanitary science.

The arrangement of a modern hospital cannot be properly understood without having a clear conception of the principles of sanitary science. I will therefore sketch them as briefly and clearly as possible.

Ailment is decomposition. The highest degree of decomposition is death. There must be agents which start and accelerate this decomposition, but also agents which can diminish and stop it, restore and preserve health. Sanitary science has to do with these evil and good agents alike. It is the aim of this science to study those agents and to find means to prevent the developing and spreading of the evil, and to enhance the action and effect of the good ones.

It is indeed to the credit of the last decades that we fully understand the nature of those agents which are the generators of disease, and which are differently named germs, bacteria, bacilli, miasma, &c. We are on the verge of great advances in the knowledge of the essence of these invisible atoms, which are man's worst enemies, and to the attack of which it is our fate finally to succumb. Of course you all have heard the names of Billroth, Pasteur, Lister, Koch and others who have taught us to recognise these microbic beings. We know to-day that they are omnipresent and have a great septic and spreading power in places filled with decomposition and foul air, and on the other hand that they, as all evil-doers, cannot stand pure air and strong light, those best health-restoring and preserving factors. Hospitals have ever been the preferred resorts of these contagious germs of diseases. The old-fashioned hospital cultivated them, and indeed, the question raised by an English authority about thirty years ago, whether hospitals have not destroyed more lives than they have saved, seems in many respects to be justified.

The tendencies to weaken the strength of these evil influences, eject and kill the germs, have resulted in the modern hospital, which is as opposite to the old type as day is to night.

Bacteriology teaches that there is a specific form of germ for the different manifestations of ailment. Patients suffering from different ailments are therefore segregated and treated in different buildings. These buildings are separated from one another as completely as possible. In order to prevent spreading of germs from one storey to the other, the storeys are also completely separated. In cases where it is feasible, superposition of storeys, even of two, is avoided. Sanitary science considers the one-storey pavilion the ideal one, not only because it prevents the spreading of germs, but also because it allows an unobstructed circulation of air and a greater access of sunshine.

Air to the healthy and sick man is as necessary as food, even more so. In order to remain or become healthy, man requires a certain quantity of air. This quantity must be provided either by natural, or if the circumstances do not allow this by artificial ventilation—that is, either by opening the windows or by a system which purifies, dries, cools or warms the air, and at certain intervals and in given proportions regenerates the air, which, by passing through the lungs of man, has become degenerate and foul. One product of respiration is carbonic acid. Its percentage fixes the measure of impurity and odour. Its normal ratio is three to four parts per 10,000. If there are six to seven parts of carbonic acid per 10,000 parts of air a faint odour is perceptible. Good ventilation is the securing of a change of air, so that the latter may be diluted to its standard ratio. We must supply so much air that an occupied ward is free from any perceptible odour to a person entering from outside.

It has been calculated by the best authorities that to attain this there must be a supply of at least 4,000 cubic feet per bed and per hour. To change the air more than three times in an hour gives draught and discomfort to the patient. If we change three times, then the constant minimum air-space required per bed is one-third of 4,000, that is 1,333 cubic feet. This is one of the fundamental numbers in the calculation of the modern hospital system.

Experiments have been made in exceptionally high wards. The chemical examination of the air taken from different heights has shown that above 12 feet there is little or no mixture or movement in the air. The space above 12 feet is, therefore, of little value as ventilation space. Additional height, of no value, adds only to the cost of construction, makes cleansing and warming more difficult. Why, therefore, make the ward much higher than 12 feet?

Empirically, I may say sentimentally, we have found long, long ago that a 12 to 13-feet storey is the most practical and comfortable one, and now the doctors prove experimentally that we are right. The average English, American and German rule for the height of a ward has ever been 13 feet, and I suggest that we stand to it. The French system demands 25 feet. That is undoubtedly unjustifiable, excessive and impracticable. It reflects on the megalomanic characteristic of Latin races since the existence of the Roman empire. If we accept an air-space of 1,333 cubic feet and a height of 13 feet, we get a floor-space of nearly 103 square feet. If we reckon 7 feet a good average wall-space per bed, we get the half-breadth of the ward with 13 feet. We thus see that the number thirteen, usually unlucky, plays quite a part in the modern hospital system. If we compare these measures with those of the existing hospitals, we indeed find that they represent the good average and precisely those adopted in modern institutes.

I resume. The germ theory is responsible for the general arrangement of the modern hospital, and the air fixes the dimensions of its principal buildings, the wards. What influence has the other important agent, the sun?

It is also to the credit of the last decades that the great restorative and germ-destroying power of light has been fully recognised. We always knew that old Sol is the greatest competitor of the doctors. We have an old saying in German, "Where the sun is not, the doctor ever is." But to employ the sun rationally and scientifically, that is the result of the very last years. You may have heard of the hospitals recently established in southern countries which make a specialty of sunlight baths and cures for all kinds of ailments. The latest developments are the light cures effected by the agency of electric light. It is modern tendency and now an axiom to make the greatest possible use of the sunlight in hospitals. For this reason the direction of the oblong ward is to-day invariably from north to south. All accessories and accommodation rooms belonging to a ward are arranged at the northern end, the eastern and western sides are unobstructed and provided with as many windows as possible. The south side is occupied by a sun-room of either square, octagonal or circular shape, affording the full benefit of the morning sun as well as of the noon and afternoon sun.

In order to get more sun directly for the patients the wards themselves have been given square, octagonal and circular forms. Other advantages are claimed for these forms—greater exposure to air-currents, better ventilation, facilities in the service, &c. The sun, therefore, determines the direction and form of the ward.

I resume. Sanitary science has laid down as principles and axioms :—

1. To separate the hospital buildings as much as possible from one another.

2. To make them as low as possible.

3. To make them as simple as possible.

This is done in order to prevent the spreading of germs and other septic influences, to allow the free circulation of air in, around, below and above the wards and the greatest access of sunlight.

It is the duty of architects to do justice to these principles by an appropriate arrangement, construction and decoration of the hospital. The adaptation of these principles is naturally local.

We have come now to the kernel of our subject, how to build a good, modern hospital in San Francisco.

I took a lively interest in this question as editor of a forthcoming publication on modern American architecture, because I am convinced that the general climatic and topographic conditions favour here perhaps more than anywhere else the erection of a modern hospital. San Francisco is a rich community, willing to spend millions on grand boulevards and other embellishments, and no doubt she should consider it a paramount duty to build first of all a hospital which can compare favourably with other institutions in existence. Am I not right? And are the prospects bright? San Francisco further enjoys for the greater part of the year a climate which is unsurpassed. Natural ventilation can be used here extensively. The sun, never oppressive, will play here a greater part than in any other locality, and sites should be found here which comply with every requirement. No doubt a hospital should be erected here that should be a feature in my publication.

The site is naturally the first question of importance. It undoubtedly should be outside of the city, beyond the congested districts, yet not too far from the centre. The ground should be open and yet sheltered from strong winds and heavy fogs. It should be perfectly level in order to secure the most economical and perfect hospital construction and service. Does the proposed site for the new hospital on the almshouse tract answer these requirements? I hope you will afterwards freely indulge in a discussion in regard to this. The proposed site is rather far from the centre and is to be approached by a steep road. The actual building site is excessively sloping and fully exposed to the ocean winds and fogs, and with a mountainous background cutting off the morning sun and obstructing the currents of the winds and favouring condensation of fogs.

After having satisfactorily settled the site question, it is of interest next to ascertain the size of the hospital and the number of patients in proportion to the population and to the site.

English authorities assert that there should be four beds to every 1,000 inhabitants. In America it is estimated that 2 per 1,000 should be ample for strictly general hospitals for the poor. According to this rule San Francisco, having to-day 350,000 inhabitants, in ten years perhaps 450,000, should provide hospital accommodation for at least 700–800. It is modern tendency not to crowd too many sick on one spot, and to segregate different classes of patients in special hospitals. Hospitals of 400 patients constitute for administrative and sanitary reasons to-day the maximum of congregation of human suffering on one spot. I would therefore suggest that San Francisco should build hospitals of that size, one of 400 for the present, and the other when urgently required. A similar proposition has been made by, I believe, Dr. Ellinwood, who acted on the jury.

There are no reliable data for determining the correct proportion of the number of patients to a given site. In German hospitals we find 50 to 80 patients to the acre. In the English hospitals 100 to the acre, and in modern French hospitals after the Tollet system 40 patients to the acre.

Having definitely settled this question we can start the planning of the hospital proper. The broad purpose of the City and County Hospital is, first, to give relief to the sick poor, and second to advance medical science by giving the students of all medical colleges ample opportunity for practice and research. Therefore are required :—

1. Buildings for the care of the sick : the wards.

2. Buildings for medical practice and research : operation-rooms, surgical amphitheatre, pathological laboratory, morgue, &c.

3. Buildings for administration.

4. Buildings for service : drug-store, kitchen, power-house, laundry, &c.

5. Buildings for housing the staff and help.

All these buildings have different functions, but they must be brought into due proportion and relation to each other. They must form an organic *ensemble*, with the administration building and the wards as the principal features. The other buildings are accessories and must be properly located in strict regard to their purpose. All buildings must be connected with the administration centre by open corridors and subways.

The administration building has been usually given undue prominence in regard to dimensions. It has been the practice to arrange in it not only the offices for the external and internal management and the housing of the superintendent, but also that of the extensive staff. This is certainly wrong. This building should be exclusively reserved for business and, perhaps, the habitation of the superintendent. It should be as contracted as possible, so that it may not become an obstruction in the way of light and air as it usually is.

In its near neighbourhood and under easy control of the superintendent should be located, yet distinctly separated from one another, the homes of the extensive male and female staff, provided with all the comfort and privacy to which these public servants are certainly entitled.

Of paramount importance is the appropriate arrangement of the wards. Whatever plan may be adopted, there can be no departure from the now general arrangement of placing the wards north and south and parallel to each other in two wings surrounding a central garden. The distance between the single wards should be at least three times the height of the elevation. Each ward should be a small and yet complete hospital in itself, and independent from the others. The staff and patients of different wards should not come in personal contact nor be compelled to pass through other wards. The wards are to be divided into medical, surgical and contagious wards for both sexes, and maternity and children's wards. Each class of these wards has its specific inner arrangement. The medical authorities have therefore to determine beforehand, by statistics on hand, how many wards are to be devoted to each class of ailment. That decided, the wards should be appropriately placed. The surgical wards should be in easy connection with the operating-rooms and amphitheatre. This building requires a northern aspect and direct access from the outside, independent from the hospital proper. These requirements determine its location on the north side of the ground, and necessarily also that of the surgical wards.

The maternity ward, one of the most important in a hospital, should be given great attention. It should enjoy the utmost isolation, privacy and quietness, and be located near the homes of the staff. The same is demanded for the children's ward. The contagious wards must be entirely separated from the hospital proper, and to the windward of the site, where also should be located the morgue, the power-house, the laundry, the stable, &c.

The kitchen department should be as central as possible for perfect service, with due regard to the removal of the inevitable odours produced. The same is required in regard to the ventilation and heating plant. Ideal as the climate of San Francisco is for the greater part of the year, yet there are months when the air is filled with an excess of moisture. For these periods a good ventilation and heating system must be provided. The air should be supplied from beyond the plant toward the windward by a draught and duct system, and removed by aspirating air-shaft with forced draught, electrical fans, &c. Although the hot-water system is the best, it would not do for such an extensive hospital, which is heated in the most effectual and economical way by the agency of steam, easily transmitted over great areas. The method of heating by indirect or floor radiation, adopted in Hamburg and having great virtue, should be earnestly considered.

If there is reason for any building more than any other to be constructed of fireproof material, it certainly should be the hospital, the home of helpless people. Tinder-boxes of combustible material, dangerous to life and limb at best, should ever be frowned upon when suggested for such purpose. A hospital should be, in fact, absolutely fireproof. The improvements of late in this line render this comparatively easy. Fireproof floors, fireproof partitions and ceilings, metal door and window finish have now entirely replaced wood. Brick, plaster, steel and stone only should be used. The best building material is well-burned brick for the interior, and glazed brick for the exterior, walls. The fire-hose can then make short work of all the microbes that may have taken lodgings there. Any diminution in the death-rate would be a full reward for the extra outlay.

In regard to the artistic treatment, I desire to say the modern hospital cannot possess a monumental character, at least, not an imposing one. Extreme simplicity, which need not and should not be inartistic and monotonous, is essential. Any projecting parts, bays and cornices in the exterior which may prevent the free circulation of air and full access of sunshine, and any decoration in the interior which may allow accumulation of dust and the hanging-on of germs should be avoided.

A hospital is usually the last chance a sick man likes to take. The dread of entering a hospital is the result of tradition regarding the dangerous state of the old hospitals, which were nothing short of death-traps and gruesome as a prison. The modern hospital should be in every respect the opposite. It should be bright and cheerful, in all its simplicity attractive and charming. Architectural relief and ornamentation being practically precluded, we must fall back on colouration. With glazed enamelled bricks, nothing is easier than to produce colouration of a light and varied character. In designing a model hospital we are not fettered by prototypes. It is an entirely new architectural problem, and essentially modern, because it calls for the expression of a great and useful modern idea in the most simple and straightforward form. The opportunity is given to produce a piece of modern architecture; I mean of that architecture which is the logical and practical fulfilment of modern requirements and its beautiful expression in characteristic forms. We are tired of old patterns with their meaningless decoration, which may be imposing, yet are also impractical and uncomfortable. We long for something modern, rational and substantial.

It is my business to look for such kinds of architectural creations, and it is more or less my duty to take an interest in competitions which may produce designs for such creations. I regret to say that this competition has not been conducted in the interests of the architectural profession and of the community. Concise and equitable conditions to guide the competitors were lacking. The time allowed for preparation of the plans was inadequate. The jury was incomplete, and therefore unsatisfactory. The architects declining to serve on the jury did more harm to the profession and the community than good, for the new City and County Hospital, as the first structure to be commenced under the new charter, should strongly reflect its great power for good and the betterment of municipal affairs.

SHEFFIELD SOCIETY OF ARCHITECTS AND SURVEYORS.

THE annual meeting of the Sheffield Society of Architects and Surveyors was held on the 10th inst. at the School of Art, in Arundel Street, Sheffield. The President, Mr. J. Smith, was in the chair

The secretary read the thirteenth annual report of the Council, which congratulated the members on a successful year's working, and stated that the membership during the past year had been increased in numbers, but that owing to several deaths and removals, the present net total—110—was four less than at the corresponding period of last year. Reference was made to the meetings of various kinds held during the year. Allusion was also made to the correspondence between the Society and the Master Builders' Association on the question of an open arbitration clause. Up to the present no decision had been arrived at. A lengthy reference was made in the report to correspondence with the Town Clerk on the subject of the Corporation Bill. It was stated that a letter had been received, dated the 6th inst, from the Town Clerk, and that most of the Society's suggestions had been adopted. Those remaining unaltered, while not quite satisfactory, were safeguarded by the right of appeal. Broadly speaking, the Society's views had been generally met by the City Council, and the result ought to prove satisfactory, not only to the profession and their clients, but to the public generally. The Council had had before them a letter from the Nottingham Architectural Society with regard to the question of architectural work carried out by that Corporation, which it appeared was causing considerable dissatisfaction to the profession in that town. The Council approved of a reply, in sympathy with their complaint, and asking for further information as to any action which the Nottingham Society might take in the matter. The Council had also had before them the same question in relation to Corporation work in Sheffield, but had not as yet been able to take any definite steps in the matter. The Council had also considered the question of a competition for two new churches in the city, and the Archdeacon of Sheffield was addressed, calling his attention to the lack of proper conditions, the absence of a professional assessor, no plan of the land or indicated levels, and the non-provision of any premium.

The President was last year elected a member of the R.I.B.A Council, and had attended meetings in London, with a view to supporting the interests of provincial practitioners and the allied societies. The Council expressed their thanks to the President for his services.

The statement of accounts showed that the year was begun with a balance in hand of 124*l.* 3*s.* 9*d.*; the year closed with a balance of 127*l.* 6*s.* 1*d.* The accounts were adopted on the proposal of Mr. C. B. Flockton, seconded by Mr. W. Potts.

The President, in proposing the adoption of the report, remarked that the suggestions made by the Council of the Society to the Parliamentary committee of the Corporation with regard to the Corporation Bill had for their object not the diminution, but rather the increase of public advantage, with the least possible hardship and inconvenience to building owners. They were intended to facilitate the satisfactory working together of the architects and the Corporation officials.

Mr. C. Hadfield seconded, and the report was adopted.

A vote of thanks was passed to the officers and to the hon. secretary for their services during the past year, and the following were elected for the ensuing twelve months:—Mr. J. Smith, president; Mr. P. Marshall, vice-president; Mr. Fowler, treasurer; Mr. Fenton, hon. secretary; council, Messrs. C. Hadfield, R. W Fowler, C. J. Innocent, E. M. Gibbs, J. R. Wigfull, T. Winder, and J. B. Mitchell-Withers. Messrs. C. B. Flockton and W. J. Hall were appointed scrutineers.

A letter was read from Dr. George Young, of University College, calling the attention of the members to the formation of a special company of the Engineer Volunteers, to consist of students of University College and professional men.

The meeting closed with a vote of thanks to the chairman for presiding.

TESSERÆ.

Prehistoric Archæology.

IN matters before the beginning of trustworthy chronology, historical inquirers must be satisfied to follow the method of geological inquirers. The geologist tells us that a certain stratum is older than another stratum; he does not profess to tell us how many years or thousands of years it is older. So in dealing with the works of unchronicled ages we must be satisfied with saying that a certain wall is older than a certain other wall, without trying to fix how much older it is. The defences of the earliest Rome on the Palatine are perfectly plain. And it is also perfectly plain that in various parts of Rome there are pieces of early wall which do not belong either to that line of defence or to the line of Servius. There is clearly an early wall which fenced in the Palatine settlement only, and there is clearly a still early but later wall which fenced in the Palatine settlement and something else. It is only when we are told that one was made in A.U.C. 1 and the other in A.U.C. 4 that it becomes so impossible to help laughing at the dates that we are tempted most unjustly to laugh at the facts also. A settlement on the Palatine only, and a settlement taking in the Palatine, the Capitoline and, we venture to add, part at least of the Quirinal, belong to wholly different states of things, and they must have been separated, not by three years, but by generations, perhaps by centuries. Where there is no chronology we altogether decline to do anything more than to fix the order of things, without making any attempt to say how long each state of things lasted. But that several hill forts were worked together at an early time into a single city, with a continuous line of defence, no candid inquirer into the antiquities of Rome can doubt for a moment.

Aspect of Porticoes.

Aspect must be a consideration in the application of a portico. No portico should have a northern aspect unless it have at the same time a famous projection. The grand portico of Rome, the front of which is due north, reads us a valuable lesson upon this point; it projects no less than three intercolumniations from the face of the wall, consequently twice in the day it receives abundance of sunshine, owing to which circumstance it never wears a gloomy appearance. Sunshine is to a portico what a smile is to the countenance; though neither of the attributes be visible for the moment their genial influence is ever apparent. A portico from the very boldness of its parts and peculiar plan being well calculated for a sunny effect, becomes on the contrary a most gloomy object if never enlivened by the sun's rays; to wit, that dull-looking portico affixed to the end of the College of Physicians. In the first place the aspect of this portico is north, and stuck as it literally is against the wall, it remains throughout the year a complete stranger to the sun's rays; this portico never wears a smile, but cold, chilly and repulsive even in the brightest season, it has the appearance of labouring under a fit of the dumps, and presents the novel spectacle of a portico requiring the physician's aid; its gloomy appearance offers a strange contrast to the gay scene around, whilst its oblique position one can imagine it to have contracted from a habit of darting side-long wistful glances at the sunny, cheerful faces of its neighbours of the National Gallery and St. Martin's. Surely it is a strange anomaly that a conspicuous part of a building which, from its destination of college of the guardians of the health of the public, is so rife with associations of a cheering nature should assume so dreary a look. The faculty must not be surprised should any one imagine them to have laboured under a heavy attack of the porticomania when they pressed this woeful-looking object into their service, standing as it does without reason, rhyme or sunshine. And singular to observe, another branch of the healing profession exhibits strong symptoms of having laboured under the same curious malady, the Royal College of Surgeons having, as it were, by hook or by crook, possessed themselves of something of the portico kind in the shape of four columns with a bit of an entablature pasted against the wall affording no shelter but screening the light; amputation here would be of use, for if the well known Italian question were put to these columns of "Care colonne, che fate quà?" they might be excused answering, "non sappiamo in verità."

Pistrucci's "St. George and the Dragon."

The representation of the combat between St. George and the Dragon which still appears on some English coins was not originally designed for that purpose. It was prepared by the artist for a "George" to be worn by a Knight of the Garter, Lord Spencer. The celebrated engraver of gems, Giovanni Pikler, who died in 1791, had engraved an intaglio representing the subject. The work was much admired in Rome, and was deservedly popular amongst the artists and connoisseurs of the time, and the young engravers of gems were frequently employed in making repetitions of it, each in his respective style. Pistrucci was commissioned by Bonelli, a dealer, to execute two cameos, which were to be copied from Pikler's intaglio. He was also commissioned by Bonelli to engrave two others of the same subject, but of his own composition. These were accordingly modelled and commenced, but they were never completed. When Pistrucci came to England in 1815 and was invited by Lord Spencer to make a George for him, the subject was not new to the artist; it was, on the contrary, one with which he was quite familiar, and probably more so as a subject for art than any English artist at that period. Moreover, the character which was to be given to St. George was frequently a matter of discussion between the artist and his employer, in which the friends of the latter also took part; and it was finally determined that it should be conducted on the principles of Classic rather than those of Gothic art. Accordingly Pistrucci, when composing the figure of the Saint, not knowing where else to apply to, engaged a young man belonging to a hotel which he used to frequent to sit to him as his model, and the action given to the right leg of the figure was purposely adopted by Pistrucci, in preference to that in the "Bataille Coquille" and in Pikler's gem, as the most natural as well as the most graceful of the two. It has been alleged that the artist had copied the group, but he was not acquainted with the "Bataille Coquille" until 1815, and he believed that gem to be a comparatively modern work.

Proportions of the Figure.

It had not occurred to the ancients that there were differences in the proportions of the various races of mankind, notwithstanding which the Greeks set before them two types, the divine and the heroic. Almost involuntarily the Egyptians took as the model two indigenous types, not including those of negroes and Jews, which figured more particularly among their prisoners of war. But the sentiment which prevails throughout antiquity and which is perpetuated throughout the Renaissance period up to the present time, is that unity of the human type corresponds to unity of species. It was this which led Quételet to affirm that ten individuals of the same age and of the same sex were ample to exhibit the proportions of the body, and that all deviations from them were only individual variations. The opposite doctrine of the plurality of types did not begin to be delineated until the time of Albert Dürer. Camper aided in developing it. It is now generally admitted, and we look for the negro ideal or the Mongol ideal as well as for the white ideal. It is upon this conception that the science of the proportions of bodies, as ascertained by anthropometry and by the method of averages, rests.

English Place-Names.

Names have all some meaning when first imposed, and when a place is named for the first time by any people they apply to it some term, in early times generally descriptive of its natural peculiarities or something else on account of which it is remarkable, from their own language. When we find, therefore, the old names of natural objects and localities in a country belong for the most part to a particular language, we may conclude with certainty that a people speaking that language formerly occupied the country. Of this the names they have so impressed are as sure a proof as if they had left a distinct record of their existence in words engraven on the rocks. Such old names of places often long outlive both the people that bestowed them and nearly all the material monuments of their occupancy. The language, as a vehicle of oral communication, may gradually be forgotten, and be heard no more where it was once in universal use, and the old topographical nomenclature may still remain unchanged. Were the Irish tongue, for instance, utterly to pass away and perish in Ireland as the speech of any portion of the people, the names of rivers and mountains and towns and villages all over the country would continue to attest that it had once been occupied by a race of Celtic descent. On the other hand, however, we are not entitled to conclude from the absence of any traces of their language in the names of places that a race, which there is reason for believing from other evidences to have anciently possessed the country, could not really have been in the occupation of it. A new people coming to a country, and subjugating or dispossessing the old inhabitants, sometimes change the names of places as well as of many other things Thus when the Saxons came over to this island, and wrested the principal part of it from its previous possessors, they seem, in the complete subversion of the former order of things which they set themselves to effect, to have everywhere substituted new names in their own language for those which the towns and villages throughout the country anciently bore. On this account the topographical nomenclature of England has ever since been to a large extent Saxon, but that circumstance is not to be taken as proving that the country was first peopled by the Saxons.

Ancient Theatres.

Amongst the objects of civil architecture few have had more influence on the art than theatres, both in their external elevation, in the application of the orders in relief on the pier and spandrel of the arch, and in the internal elevation, the scene, which has been the occasion of so much caprice and corruption of taste. The theatre, being constantly employed for parliamentary assemblies, required a permanent scene as well as movable, and adapted to the performance. It was a subject of vast architectural study and expense. Pliny tells us that Caius Antonius silvered the scene, Pretonius gilt it, Quintus Catullus clothed it in ivory. Scaurus surpassed them all; he raised 360 columns in three ranges—the first was of marble 38 feet high, the next was in glass, the third of wood gilt. Three thousand bronze statues ornamented the intercolumniations. Curion, unable to surpass Scaurus, built two theatres of wood, which, being back to back, could be turned so as to form an amphitheatre for gladiators, displaying the skill of the Roman carpenters to great advantage. Vitruvius, lamenting the depravation of taste, tells us that Apaturius of Alabanda offered a design for a scene of two storeys, the upper called Episcenius, filled with every caprice; centaurs did the office of columns, pediments were twisted in a variety of shapes, all which pleased the people of Tralles, for whom it was designed; but Licinius, a mathematician, exposed its absurdity, and it was accordingly reformed on better principles. The scene of Laodicea was the most extensive, being no less than 254 feet in length. The theatre of Orange, lately published by M. Caristie, was a valuable addition to our information on the Roman scene. Palladio's scene of the theatre at Vicenza gives the best idea of its feature of ancient architectural magnificence. Originally of wood, and continuing so for many centuries, it was not until the third century before our era (232 B.C., the theatre at Epidaurus) that they were built in stone and marble. The Greek theatre approached the amphitheatre, and was a horseshoe comprising 200 degs. or more, because the orchestra was reserved also for the performance; but the Roman theatre did not exceed 180 degs., because the orchestra was occupied by the senators. The Odeum was a covered theatre, chiefly for music; that of Herodes Atticus, at Athens, was the most magnificent in Greece, and had a roof of cedar The space covered was 240 feet by 159. The construction of such a roof without obstructing sight or hearing or injuring external architecture offers a problem to the architect of no easy solution, and is one of great interest in the present times, as we are frequently called upon to cover large areas for occasional assemblies.

French Chateaux.

The high roofs which were affected in France in civil as in ecclesiastical architecture, have rendered the dormer window one of the most striking features of the domestic style from the thirteenth century down to the present day, and in the stone buildings of the period of the Gothic Flamboyant it became the object of the richest and most elaborate decoration, of which one of the most conspicuous examples is at the Palais de Justice at Rouen. The tourelle overhanging the angles of the domestic edifices of the Middle Ages, especially in town buildings occupying the corners of streets, is another peculiar feature of the French style. Many are still remaining in different quarters of Paris, some still preserving the high conical roof and metal finials with which they invariably terminated The façade of the Hôtel de Sens, in that city, one of the very few relics of the larger town houses of the Middle Ages, is flanked with two of these tourelles. In England they are never seen, but may be traced in Scotland with some other indications of the French alliance with that country. During the fifteenth and sixteenth centuries a very large proportion of the street architecture of France was of timber, richly carved and decorated in a variety of ways In the fifteenth century brick began to mingle in the façades, filling up the intervals between the timbers, and the use of bricks of different colours, disposed in patterns, contributed greatly to decorative effect.

This style of building was especially prevalent in the Bourbonnais. Glazed tiles were introduced for the same purpose, and when plaster was used, which was very commonly, it was sometimes ornamented by patterns sunk in and filled with coloured mastic. To harmonise with the coloured surfaces, the carved timbers were painted and even gilt. The Renaissance introduced a new style of decoration long before it materially altered the principles of the distribution and construction of buildings of the domestic class. The transition from the Gothic to the Italian in France operated in a manner differing materially from the Elizabethan or Anglo-Italian on our side the Channel; its peculiar feature is the composition of Gothic forms with Italian details—a principle carried out with great ingenuity and with extraordinary skill in execution. The works of the Renaissance are for the most part valuable as works of art. Under Jean Goujon the French school of sculpture (which had maintained a high standard of comparison throughout the Middle Ages, even from the tenth century) became one of the most graceful and refined in the whole circle of modern art. Down to the period of Louis XIV. the most magnificent domestic edifices were built with little attention to convenience. Customs now confined to the lowest class subsisted among those distinguished by wealth and rank down to the close of the seventeenth century in some of the provinces of France. When the great Condé attended the meeting of the States of Burgundy he was received at the houses of the magistrates of Dijon in rooms which served for parlour, hall, dining-room, kitchen and even bedroom. In such a room, called the chambre menagère, it was then the custom for the whole family, servants included, to live in common. In other respects there was no want of luxury. When Condé returned to court he said to the king, "Your province of Burgundy is rich—the kitchens are tapestried."

The Power of Colours.

When Alison says there is no such quality as inherent beauty in anything, he enounces a very bold and a very doubtful principle; but there appears to be at least some approach to truth in the dogma when applied to beauty in colour. Without going so far as to say that there is no inherent beauty in any one colour or hue, it must be admitted we are greatly influenced by prejudice in our estimation of this kind of beauty. The circumstances of its application materially affect our judgment. Burke cites the colour of a dove as one of its peculiar beauties; but if we argue from thence that therefore dove colour is intrinsically and abstractedly a beautiful hue, we must be prepared to admire it on the female cheek, or the hair, or the lip. There may be an inherent property in particular hues to cause us pleasure in the contemplation of them; for philosophers tell us of certain physical effects, vibrations as they are called, on the organs of the eye, produced in various proportions by various colours; but this is a subject far too recondite for our contemplation here, and probably of little practical value. Still, we may with safety say broadly that colours are so dependent for their effect on association, that they derive an immeasurable accession or loss of power to produce pleasure according to the art with which they are placed before us with reference to each other. In this respect there is a remarkable analogy between colour and sound. We can hardly say with strict propriety that any one note in music is beautiful; but associate it with others into a chord, according to certain laws of harmony, and the most uneducated ear can at once appreciate the result. This analogy between sound and colour is familiar, and has not escaped the observation of natural philosophers.

The Pyramids of Dashhour.

At Dashhour are three pyramids of stone and two of crude brick. The north stone pyramid is the most perfect of any in this district. The stones are laid in horizontal courses and the masonry is good; the angle at the apex is nearly a right angle and the building has on that account a handsome and solid appearance. The usual inclined passage leads to the chambers about 12 feet wide, which are covered over by the courses of the walls over sailing about 6 inches on each side, leaving the ceiling 1 foot 2 inches in width. The southern stone pyramid is built in two inclinations so that the lower part has the form of a truncated and the upper that of a perfect pyramid, which mode of construction, according to Sir Gardner Wilkinson, was probably occasioned by a desire to complete the building more quickly than it was at first intended; this conjecture was in some degree confirmed by Mr. Perring's researches, by which it appeared that the upper part had been carried up with less care than the lower, and was also composed of smaller stones; but whatever may have been the cause, all architects must agree with Mr. Perring that the effect is unpleasant and very inferior to that of the other regular formed pyramids. The beds of the casing-stones are not horizontal, but incline downwards towards the interior of the edifice, in order probably to obtain greater solidity as likewise to save the materials, as less of the external faces of the stones thus laid would require to be worked away to complete the exterior of the building. This inclination, however, is not uniform nor at right angles to the exterior, but it seems to be regulated by the shape of the blocks. The usual inclined passage leads to several chambers, which are covered by the side courses approaching each other. The northern brick pyramid is composed of crude bricks 16 inches long, 8 inches wide and from 4½ inches to 5½ inches thick, some composed of alluvial soil, some of sandy loam mixed up with Nile earth and a little straw. All the bricks are remarkably solid, laid principally in courses from north to south, occasionally intersected by courses from east to west. The bricks were bedded in and the interstices between them were filled in with fine dry sand. The bricks were marked on the upper surface by means of the fingers with different signs, apparently according to their quality and also according to their position. The most usual mark had been made by two fingers about 1 inch apart having been drawn down the middle. This building was cased with stone, and it was supposed that stone might have been also employed in their interior for the construction of the apartments, or that the interior might afford additional proof of the antiquity of the arch because ceilings to any extent could not have been formed with bricks in any other manner; but with all Mr. Perring's excavations and researches he could not discover any entrance or apartments within, but he discovered a very curious and interesting mode of forming a foundation. It seems that the stony surface of the desert had been made level by a layer of fine sand and confined on all sides by a stone platform 14 feet 6 inches wide and 2 feet 9 inches thick, which supported the external casing, and the pyramid was built upon the sand which is firm and solid. Mr. Perring has met with many other instances in Egypt where sand had been thus used, and provided it be retained in its place it apparently may be depended upon. The blocks composing the platform were laid upon four courses of bricks. Several of the blocks of the casing were held together by stone cramps of the double wedge form.

Battlemented Walls.

The military architecture of the Greeks and Romans consisted from the earliest to the latest times of walls and towers, capped with battlements. The overhanging battlements now called Gothic were certainly known to the Romans as early as the reign of Titus, as there are among the paintings of Herculaneum representations of walls and towers completely finished in this way, and it is probable that this fashion continued down to the subversion of the empire, and was then adopted by the conquerors. It is, indeed, the natural mode of fortification for any people skilled in masonry, and not acquainted with artillery, to employ, as it afforded the most obvious and effective means of at once guarding the defendants and annoying the assailants, wherefore it might have been used by different nations which had no communication with each other, and which might with equal justice claim the invention of it. Lydgate, in his "Troy Boke," describes the fortification of his own times, "The walls were on height two hundred cubits, all of marble grey, magècolled without for saultès and essay." Magècolles, or machecoulis, were the openings under the parapet of the gate or other towers of salient angles. Some of these, of singular curiosity, are at Lumley and Raglan Castles, two instances as early and as late as they were made in England.

GENERAL.

Sir W. H. Preece will deliver a lecture on Monday next at the Institution of Civil Engineers on "The Relations between Electricity and Engineering." It will be repeated on Tuesday.

Mr. E. Guy Dawber will read a paper before the Society of Architects on Thursday next on "The Domestic Architecture of the Cotswolds."

The Brighton Aquarium is to be sold to the Brighton Corporation for the sum of 30,000*l.*

An Italian Journal declares that the remains of Famagusta in Cyprus are being demolished in order to be used as material for building at Port Said, for tramways and other modern uses.

The Belgian Salon des Beaux-Arts contains several works by English artists, including Messrs. John M. Alexander, James Guthrie, J. S. Sargent, George Henry, George Sauber, Macaulay Stevenson and Grosvenor Thomas.

M. Brunet-Debaines has contributed a large etching of Canterbury to the Salon Exhibition.

The Christian Archæological Congress was opened at Rome on Monday under the presidency of Monsignore Duchesne. The members were welcomed to Rome by Cardinal Parocchi.

The Carving of the Royal Arms which was formerly at the church of St. Michael Bassishaw has now been deposited in the Guildhall Museum on the demolition of that church.

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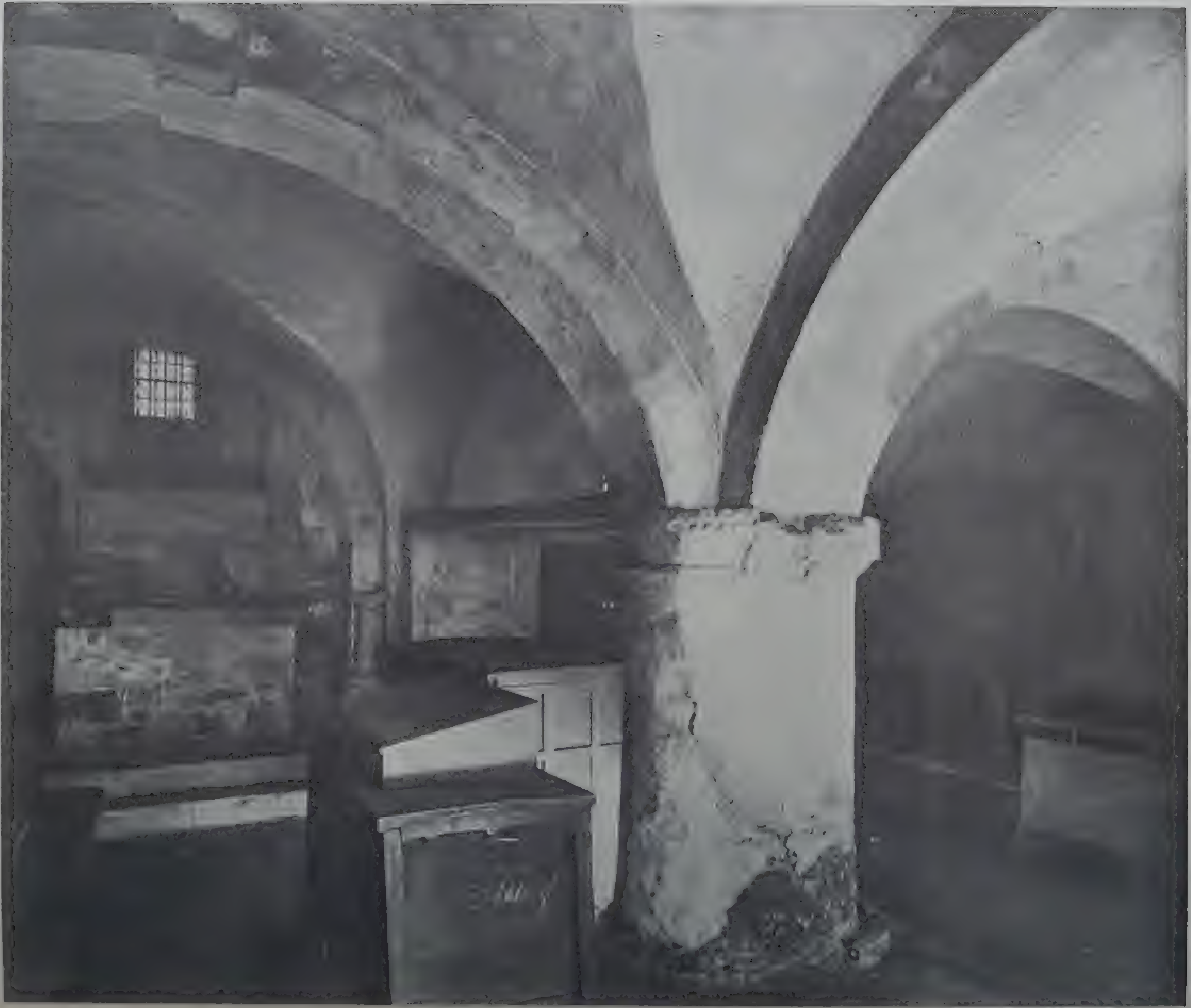

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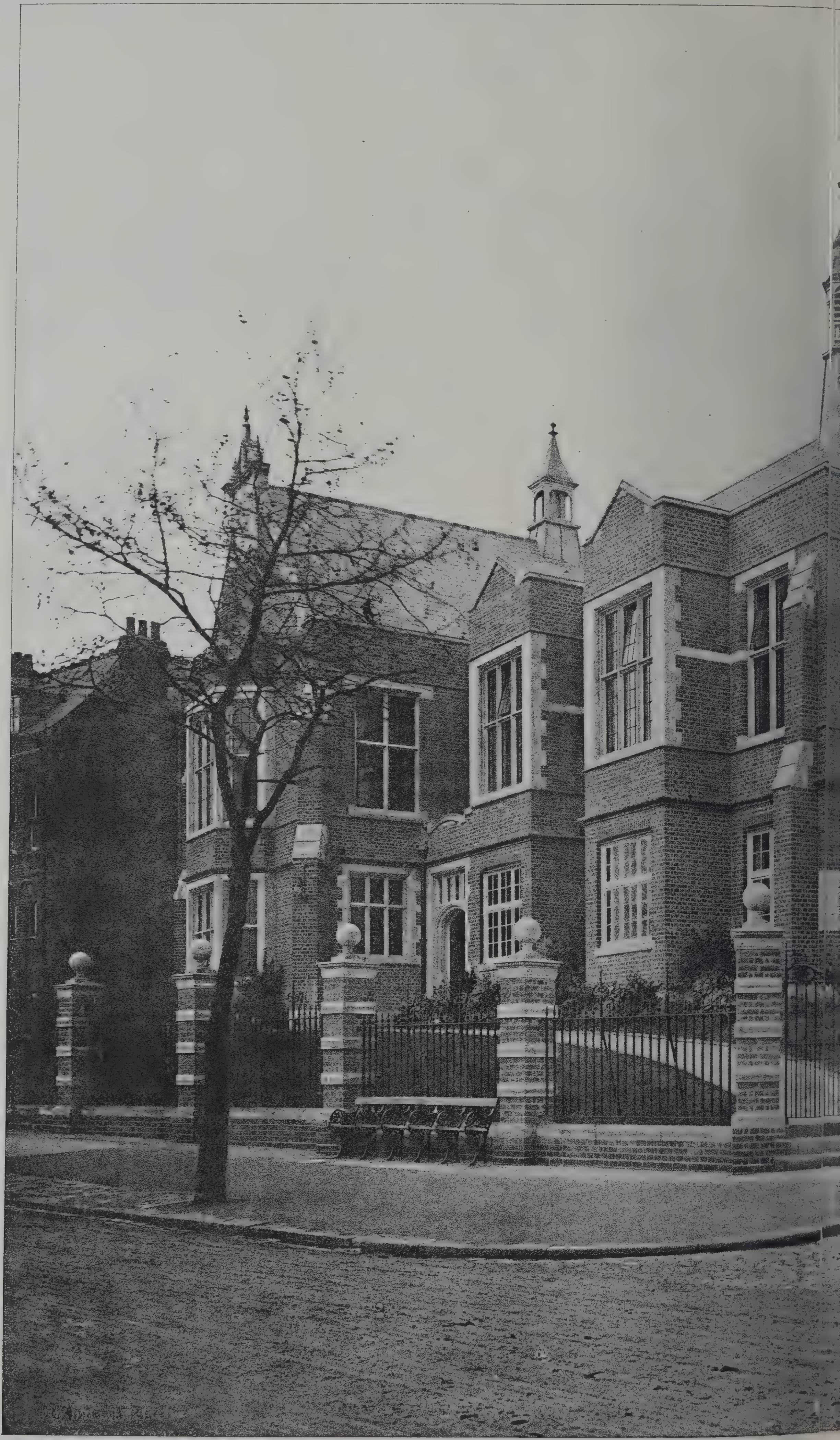

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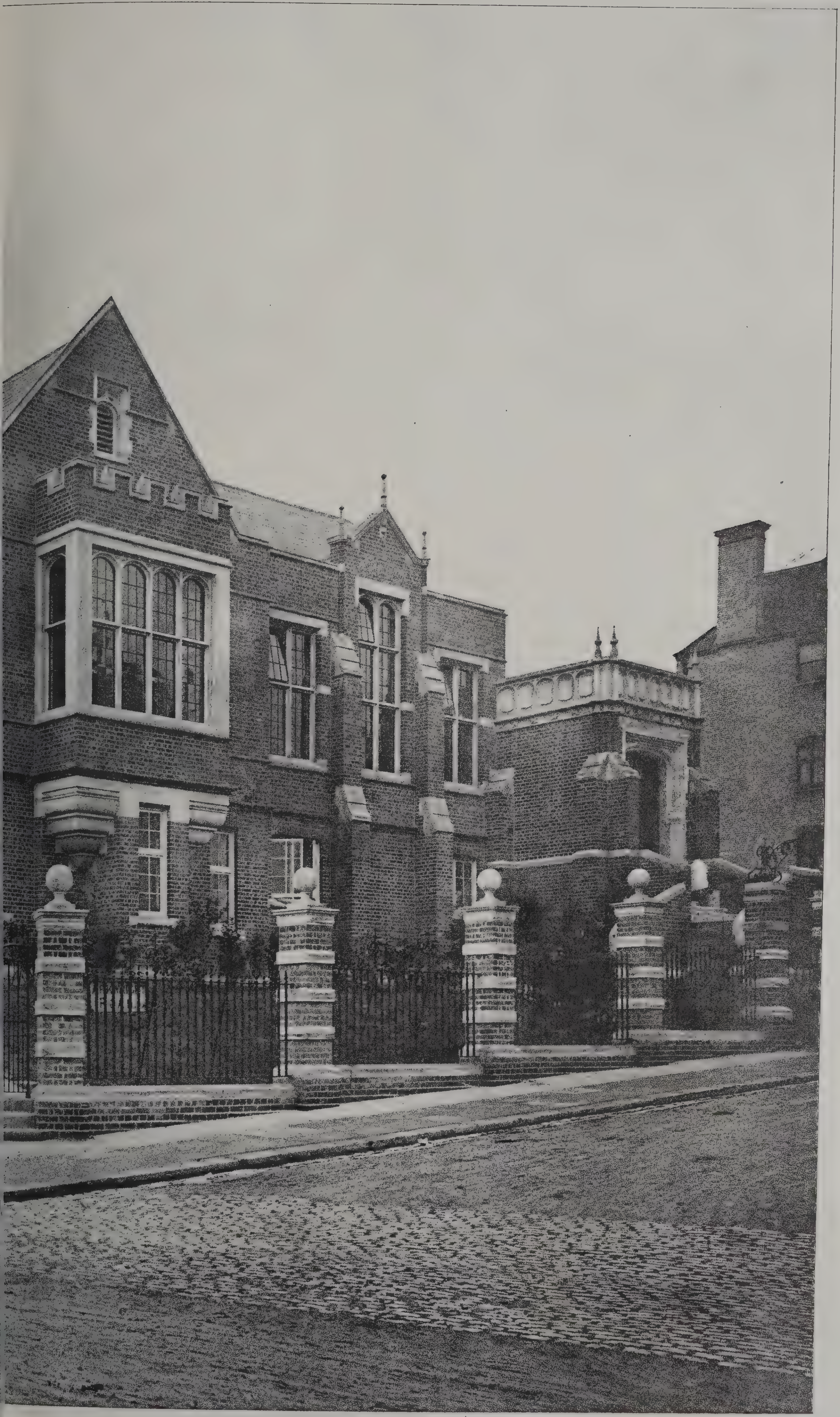

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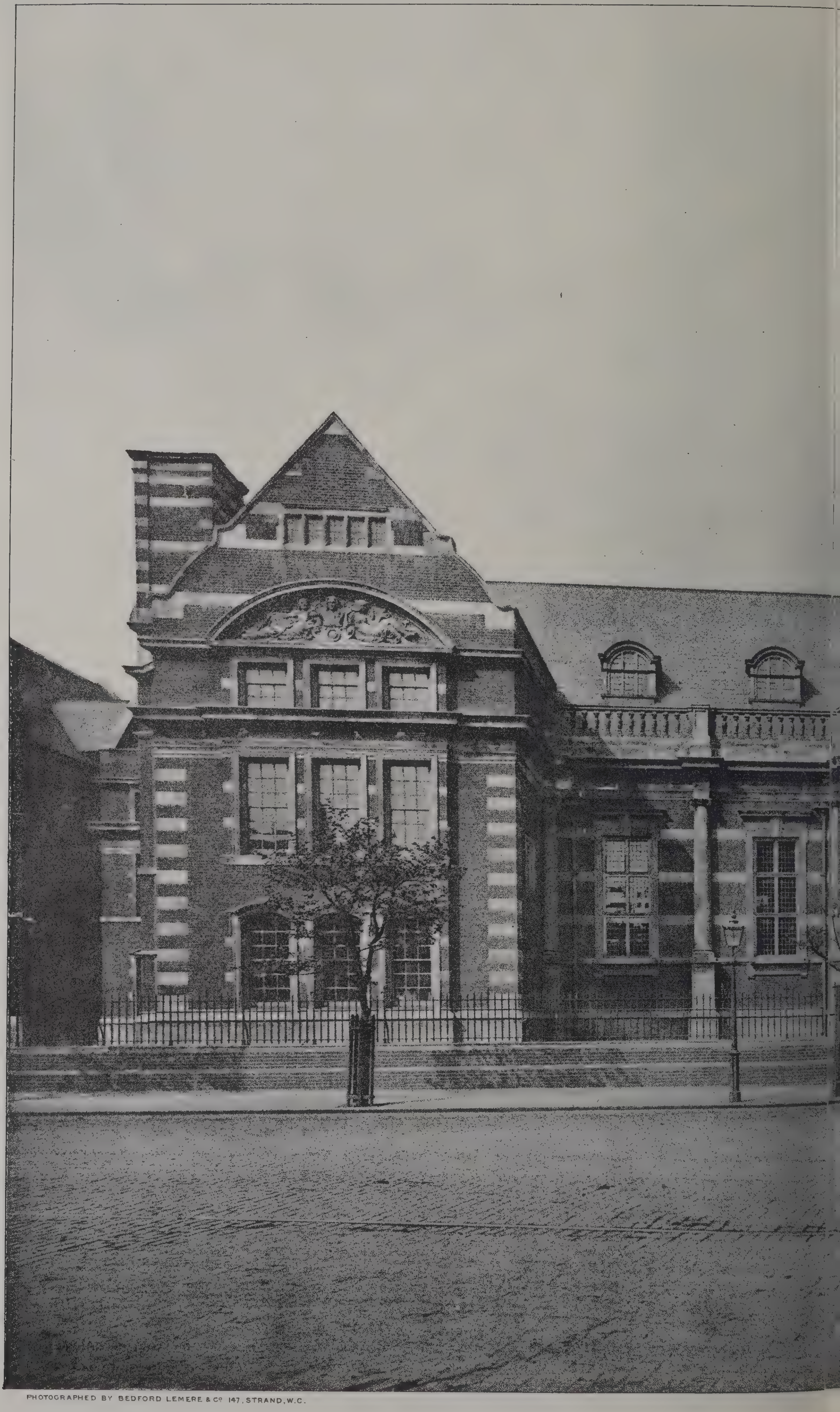

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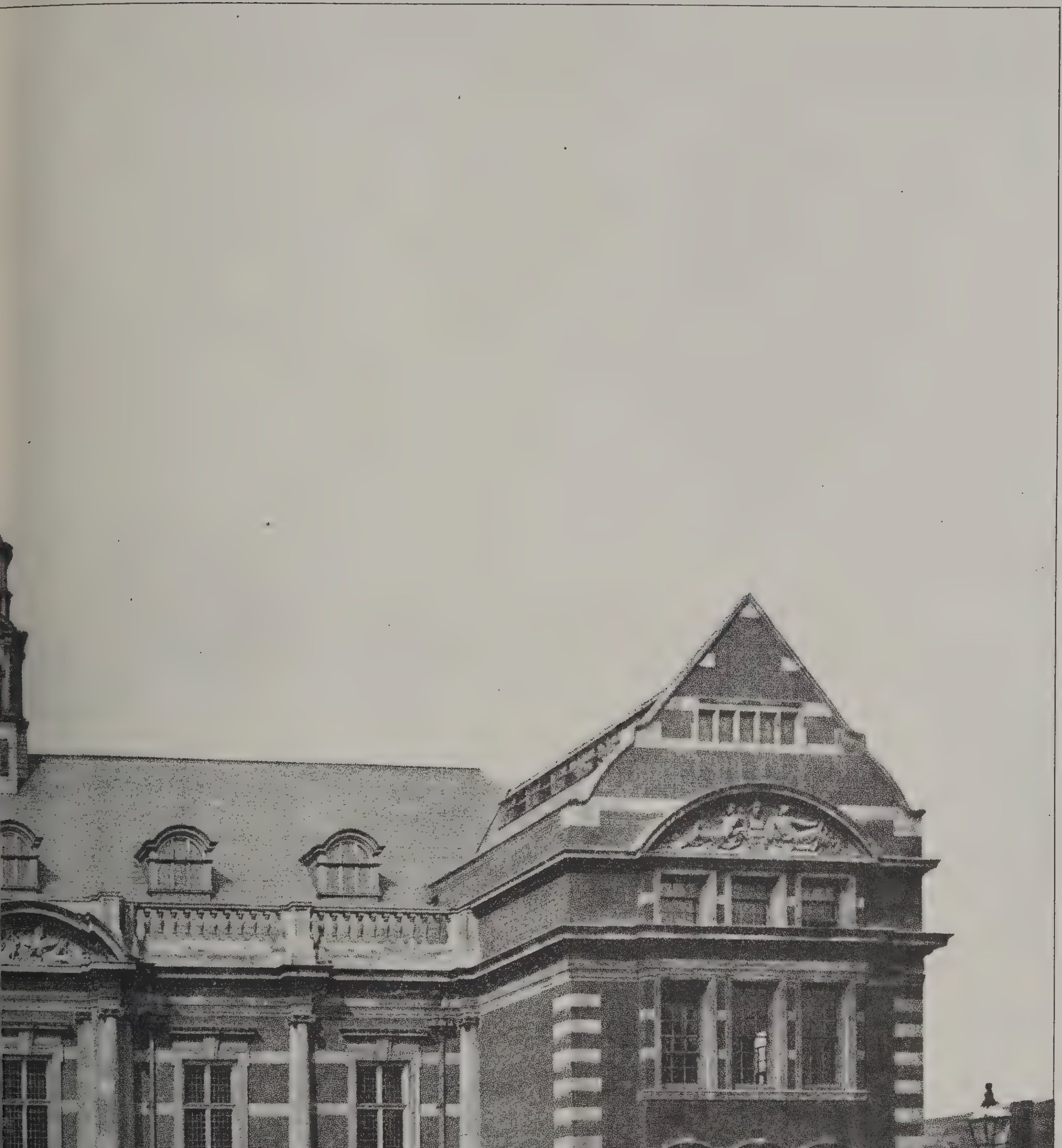

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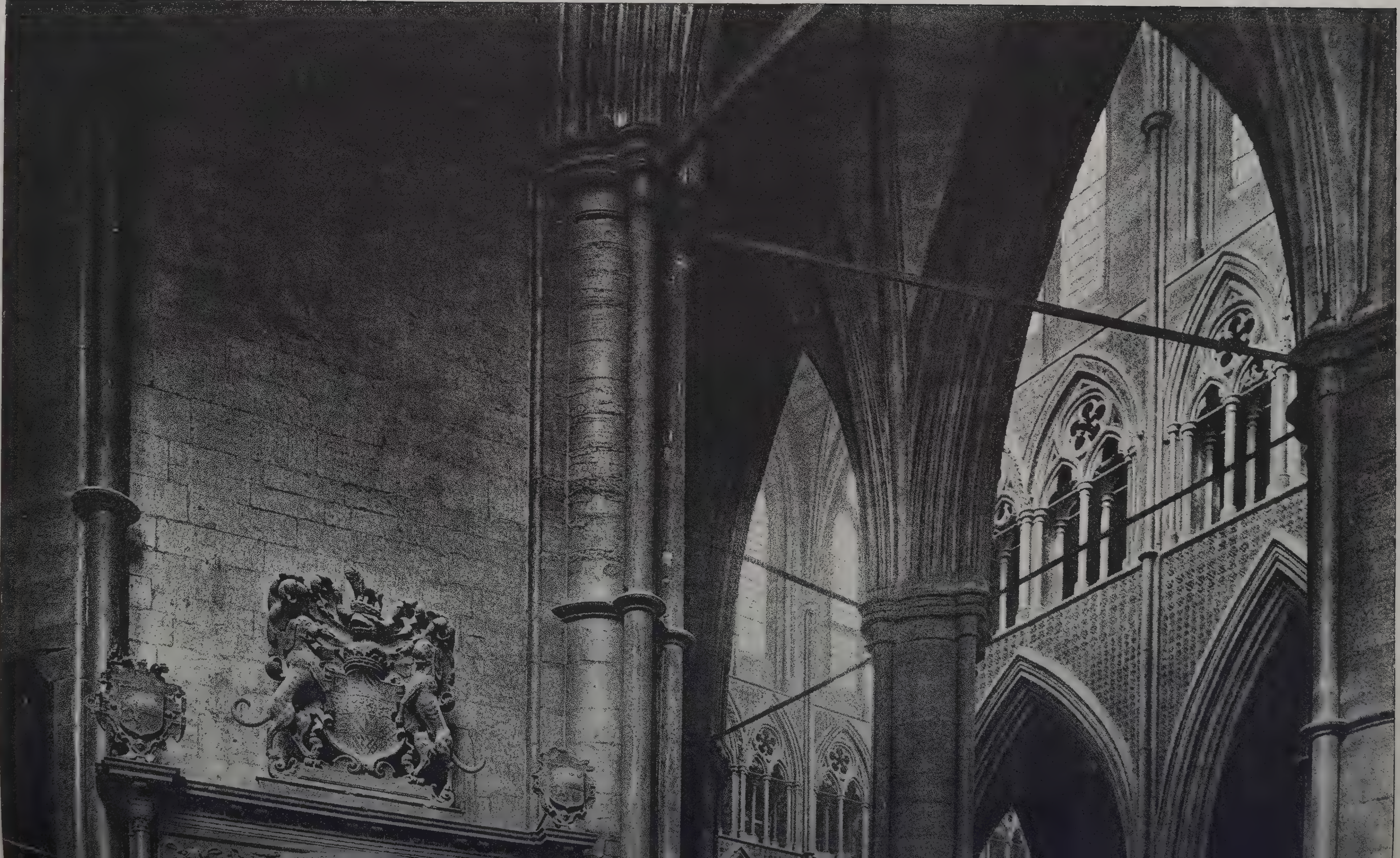

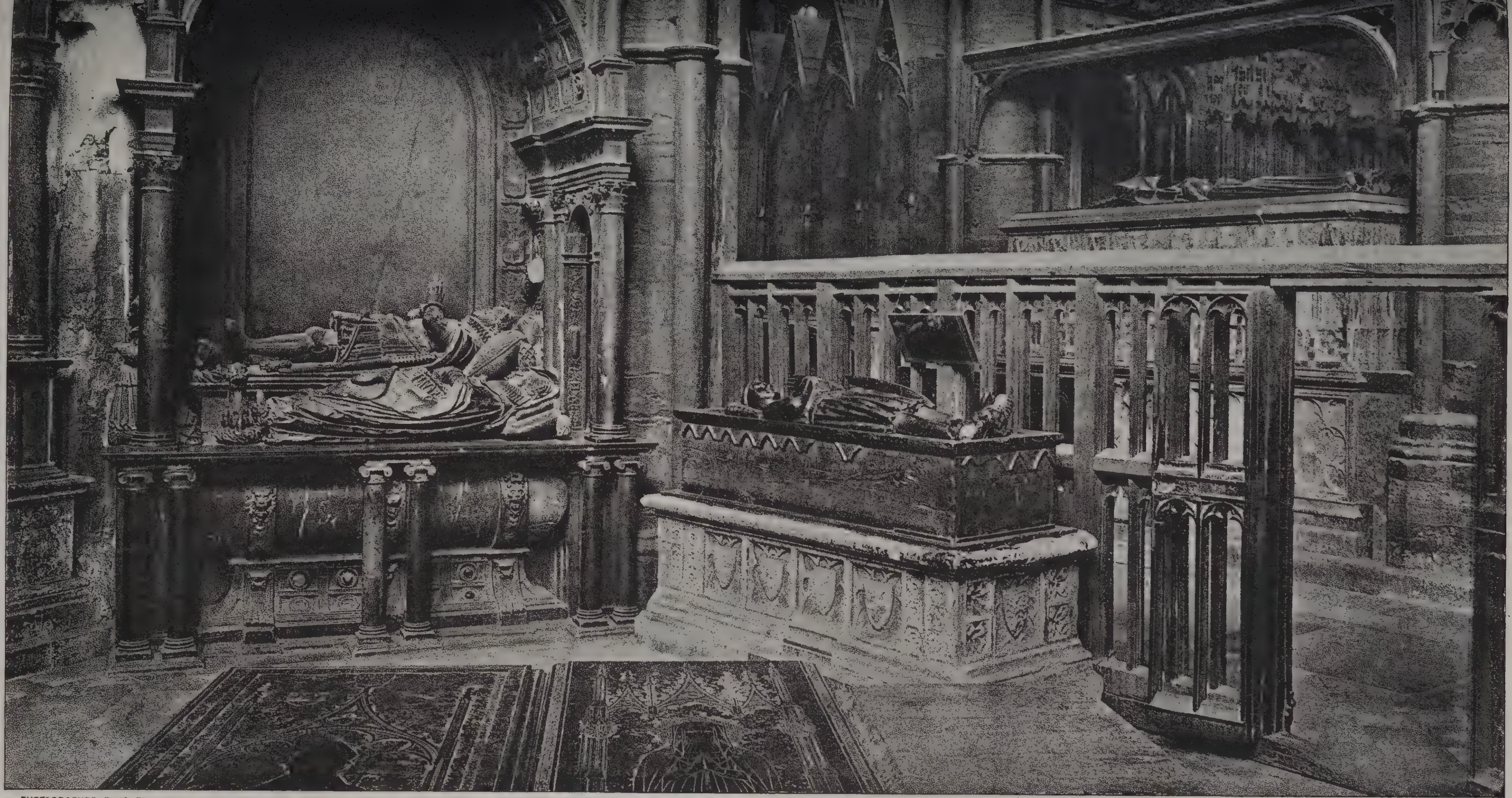

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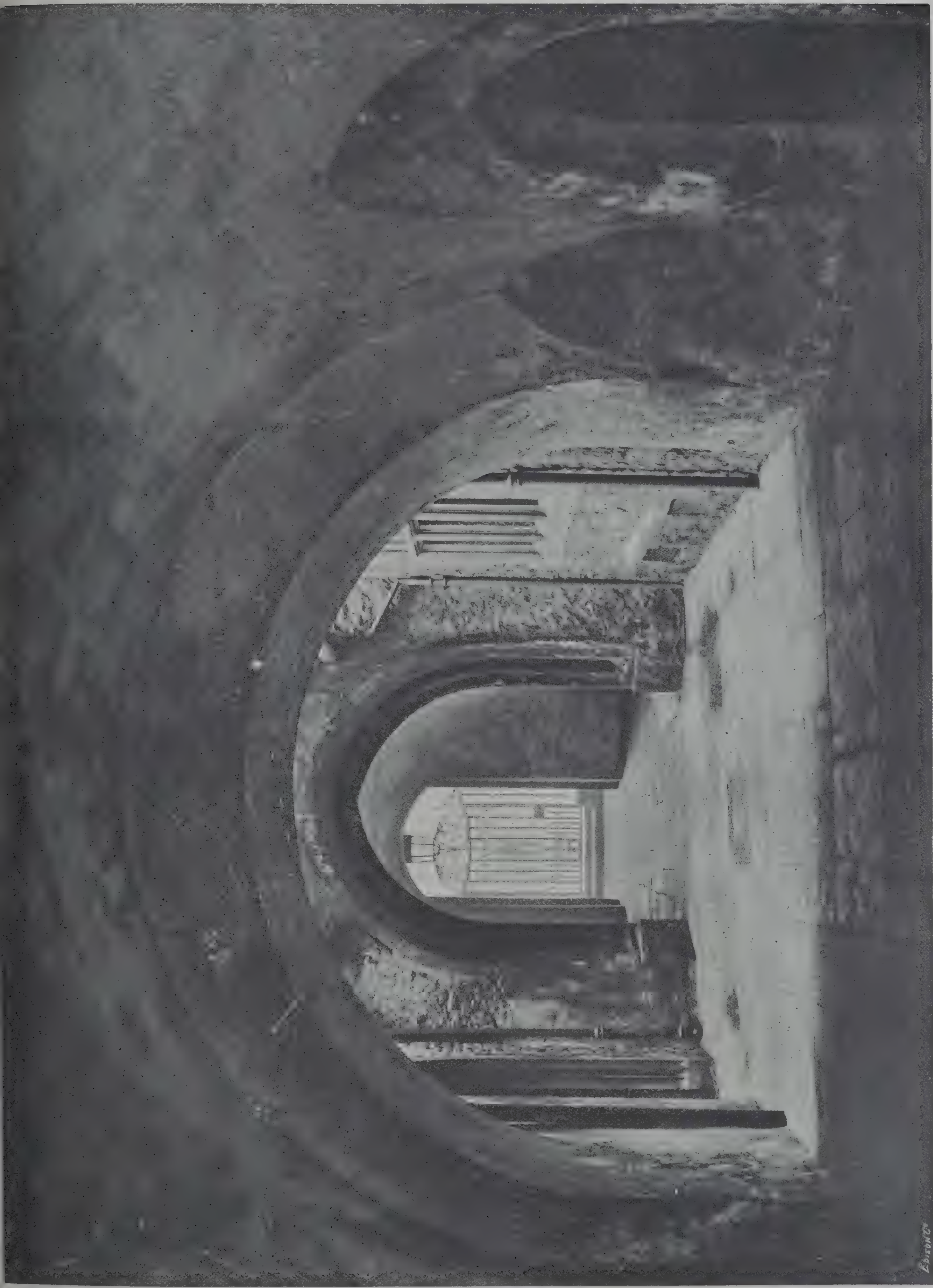
WESTMINSTER ABBEY, No. 43.
CHAPEL OF S. EDMUND, LOOKING NORTH-WEST.



WESTMINSTER ABBEY, No. 45.
ENTRANCE TO LITTLE CLOISTER.

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The Architect.

THE WEEK.

It is with deep regret we have to record the death of Mr. Benjamin Ferrey on Thursday in last week. He was in his fifty-fifth year. Being the only son of the late Edmund Ferrey, he was nurtured amidst architectural surroundings, and the supremacy of English Mediæval architecture was to him from his childhood like an article of faith. The Church of England did not possess a more loyal and affectionate member. His actions were inspired by her doctrines, and his constant apprehension was that by word or thought he should not prove himself to be worthy of such a mother. To him an old English church was something more than the work of human hands; to his mind it possessed qualities which were imparted to it by consecration, in order to make of it a fitting instrument for its lofty purpose. In describing one of the buildings his enthusiasm sometimes merged into mysticism, for in all sincerity he was able to say, "I have loved the beauty of Thy house, and the place where Thy glory dwelleth." It could not be supposed that his devotion to the Church was in any way inspired by the hope of receiving commissions. Such a thought would be to him the worst of crimes. Although he was a poor man, he shrank from making himself obtrusive when building work was to be done, and as there were many architects who, knowing more of the world and of human nature, acted differently, Benjamin Ferrey found he was too often neglected. If he applied for an appointment as diocesan architect he was so hesitating about the grounds of his claim as to make it appear he was not desirous to succeed. The number of churches he designed and the restorations on which he was engaged are, therefore, far from affording adequate evidence of his power. *The Architect* has been much indebted to him as one of its most zealous contributors during the past thirty years. When writing of the work of his contemporaries his aim was to discover whatever was excellent in it, and to suggest a defect was painful to him. In his articles, as in all his other work, he was most scrupulous, and he spared neither time nor labour to attain accuracy, however unimportant to others the statement might appear. But to his mind nothing relating to a church could be insignificant. During recent years he had to sustain many sorrows, and his bearing might be called that of a Christian stoic. He accepted calamities with resignation, believing they were imposed by a higher Power. All who knew him must hope that so good a man has met with the reward which is offered to the clean of heart, although he was too humble to consider he had deserved it.

The unexpected death of Jean Alexandre Falguière has taken from France a sculptor who by many critics was considered to be the foremost in his art. It is impossible to determine that question, as there are many theories about what is the highest in sculpture. It may, however, be said that M. Falguière more than any of his contemporaries seemed to continue that vigorous art of which Rude's *Departure of the Voluntaries* is so notable an example. M. Falguière loved action, and his figures, especially in his imaginative works, were of a kind that seemed more suited to action than to repose. A native of Toulouse, where he was born in 1831, he carried off the Prix de Rome in 1859. His early work, *Le Coq Vainqueur*, has been repeatedly reproduced as a statuette, and is deservedly popular, for it represents a youth running to announce the triumph of the bird he carries. In 1866 the sculptor was awarded the médaille d'honneur for his *Christian Martyr*. Both works suggest the influence of Rome in its Pagan and its Christian aspects on his mind. Few sculptors received more commissions, and his works represent many varieties of art. He executed a *Virgin and Child* for the cathedral of Marseilles, and a large group representing a Swiss girl supporting a dying Mobile, which was the expression of the gratitude of Toulouse to the town of Berne for the hospitality shown to the French troops in 1871. For Rouen he produced an immense fountain, which is emblematic of the city and of Normandy. He made a statue of Madame Nillson as "Ophelia" and one of Pierre Corneille for the Théâtre Français. Among his other statues are those of Gambetta, Lamartine, the Abbé De la Salle and St. Vincent de Paul, all of which are characteristic of the subjects. During late years he was engaged on the great monument of Pasteur, on a statue of Balzac for the Society of Men of Letters, one of Bizet and another of Ambroise Thomas, the composers. A work of his, although executed in the most fleeting of materials, should not be forgotten. This was his statue, *La Résistance*, a seated figure in snow, which, with the assistance of M. Chapu and other sculptors, he made while serving in the Garde Nationale during the siege of Paris. He wished to suggest moral rather than physical resistance, and therefore the figure became a nervous but proud and resolute Parisienne, and her smile of heroic disdain was, as Theo. Gautier said, more terrible than the expression in the face of a Medusa. According to one account, the snow image melted under a slight increase of heat; but others say the statue endured for ten days, and would have stood for a longer time if a foolish soldier had not knocked off the head for amusement. He was justly imprisoned. M. Falguière was perhaps more proud of his skill in painting than of his statues. He began with a powerful picture, *The Wrestlers*; next he exhibited *Cain and Abel*, and subsequently *The Execution of St. John the Baptist*, *Susanna* and *St. Sebastian*. His figure of a coarse Spanish woman, with her arms folded and a stiletto in her hand, has been often reproduced. M. Falguière's death was unexpected, and has caused unusual regrets.

Omniscience was one of the foibles of the Duke of Argyll. It is not therefore surprising that he had no hesitation in laying down the laws of architecture. As a student of science he was a representative of the present, but in architecture he was a thorough Mediævalist. The remains of old village churches of Scotland, many of which are found on his estates, are as simple as if they were intended to be habitations for peasants. But some years ago, when His Grace was laying the foundation-stone of a new church, he declared that old work had that seal of beautiful proportions which cannot be mistaken by those who have studied the simplest architecture of the Middle Ages. Then the Duke expressed a doubt if modern architects had any eye for proportion. According to him, they desired "to eke out the adornment of the church with elaborate windows and other ornaments, while the general proportion of the building is deficient to the eye." Finally, the Duke's mood changed, and he came to the conclusion that the finest architecture was of no account in a Scotch landscape. "No human architecture can be really impressive compared with the magnificent architecture of nature which we see around us." But if the best efforts of architects are fruitless, where was the advantage of the beautiful proportions which His Grace was alone able to discern in the ancient churches?

It is remarkable how general is the opposition when it is proposed to erect municipal buildings, and yet they are hardly completed without wonder being expressed at the apathy which made the city or town suffer inconvenience through their absence. Bristol has been so long an important a city, visitors are surprised when they see the kind of building which represents its authority. From time to time proposals are made to erect suitable municipal offices. But the stereotyped objection is the expense. In so prosperous a place it is not to be expected that sites are to be obtained in central positions at prairie value. Yet individuals know that investments in property are safe, for the value of Bristol is increasing, and any outlay of the Corporation on a site or on building would not be wasted. If it were necessary at a future time to emigrate to another part of the city, the money expended on municipal offices would be found to be returned with interest. Recently a special committee have been investigating the subject, and came to the conclusion that a site adjoining Colston Avenue should be secured immediately, as otherwise a much larger sum would have to be paid for it. But the usual hesitation about undertaking additional expense and meeting the ratepayers was displayed, and the project was rejected by a large majority.

PROTECTION OF ANCIENT MONUMENTS.

When describing a few weeks ago some of the efforts which were in progress to preserve ancient remains in Ireland, we pointed out how complete was the legislation there when compared with what is applicable in England. The difference between the two may be shortly summed up by saying that in Ireland not only earthworks but remains of old abbeys and churches can come under the ægis of the law, whilst in England prehistoric remains alone receive official protection. In England it could easily be concluded that an ancient monument was something deprived of architectural character, such as standing stones, tumuli, a "King's Coty House," earthworks and so on. Officialdom in Ireland, on the contrary, takes charge of round towers, ruined cathedrals, monumental crosses and most old examples which show an application of design to stone. There is, however, no neglect of earthworks. As many as possible are brought within the compass of the Acts, but it is not always easy to demonstrate that a slight elevation in a field which from time immemorial has been covered with grass, and on which cattle and sheep graze, is a relic of the work of some primitive military engineer.

Although at first sight it may appear strange there is not uniformity of legislation upon archæology in England and Ireland, the difference is easily explained. Ireland has had a long experience of confiscation. It was by that process the University of Dublin, the City Companies and most of the principal families in the island acquired their landed estates. When the lands were changing owners through the operations of the Encumbered Estates Acts and the Landed Estates Acts, there was one half-crazy nobleman who was quite content while his broad domains were vanishing from his control. He had persuaded himself that the lands could be restored to him as easily as they were taken away, and he lived in hope of a happy time when he was to re-enjoy his own without any of the worries which used to arise from mortgages. To him and to other gentlemen of his class it seems like the operation of a natural law when the Government make a claim on a part of their possessions. They would, of course, prefer to receive liberal compensation if the property could be said to have a value which was able to be reckoned, but for so insignificant an object as a ruin they would be willing to assume that the surrender would be rewarded in some indirect manner.

In England, on the contrary, confiscation is a power that is almost unknown. The principal authority for its use as an English word is Burke, who employed it to express one of the horrors his excited imagination beheld as among the consequences of the French Revolution. It was fit to be classed with the dire chimeras and hydras of the poet, for it was equally non-existent. If confiscation were recognised as a legal power, the difficulty of discovering sites for dwellings for the poor would be removed. But the Building Acts leave no doubt about the necessity for paying the full value of all dangerous or neglected structures. It may be unwise to display consideration for owners who are indifferent to the interests of their tenants or the public in general, but we must take the law as it is, however misplaced may sometimes be the reverence it displays for private property in all forms.

It was owing to the sacredness of property, in a legal sense, that the first proposals for protecting cromlechs, circles and prehistoric remains were offered in fear and trembling. The Ancient Monuments Act of 1882 was therefore of a unique kind. Most of its provisions were optional. There was no power then existing to declare that Stonehenge or Silbury Hill was national property, and must as such be preserved, and there was no power of the kind created by the Act. The least proprietary privilege was to remain unmolested. If an owner was inspired by public spirit or love of antiquity to voluntarily make over his interest in prehistoric remains to the constituted authority, the latter would arrange for the preservation of the trust confided to it. But the interest was so rigorously limited as to become almost an abstraction. The owner's property rights remained, although it was not possible to revoke the arrangement or to exercise any control over the earthworks. All that was done was to create a legal fiction, by means of which the chances of destruction of an ancient work were lessened.

In order to make it doubly sure that there would be no scope for activity, and therefore no interference with proprietorial rights, the amount assigned by the Government to defray all the annual expenses arising from the preservation of ancient monuments was a nominal sum. Happily England possesses men who find a sufficient reward in the holding of an appointment, and General Pitt-Rivers undertook the Inspector-Generalship under the Office of Works regardless of the financial insufficiency. He has been able to obtain the transference of many prehistoric remains. But it is well known that the most important still continue beyond his control. The Act could not prevent the sale of Stonehenge to a foreigner, or the destruction of the mysterious stones if the owner wished to exhibit his power.

But partial as is the success, it has been sufficient to demonstrate that in England there are memorials of a later time which should be protected, if it were only possible to acquire the power to do so without giving offence to those who possess rights of property in them. In other words, it is proposed to assimilate the practice in England with that of Ireland in respect to antiquities. A Bill for that purpose was introduced this session by Lord Balcarres, who belongs to a family that has taken a lively interest in antiquity, and who has shown by his conduct in the South Kensington inquiry that he possesses a wide knowledge of ancient and modern art, and, moreover, is not afraid to wound the susceptibilities of officials when the public interest requires it. Thanks to his skilful piloting the Bill has passed through the House of Commons.

By the first section it is proposed that the Ancient Monuments Protection (Ireland) Act of 1892 shall have the same force in Great Britain as in Ireland. Power is to be conferred on a county council to purchase and preserve monuments in their own county or in any adjacent county. In that way there is a transference of ownership accomplished in the usual manner by the aid of money. But if the owner expresses a desire that the council should become the guardians of any monument, they can do so, and pay the whole or part of the cost of the preservation. By the existing Act the Commissioners of Works alone have the right to make such an arrangement, and in Ireland the power is confined to the Irish Commissioners of Public Works, but in England the county councils will take the place of either body. The Commissioners of Works and a county council can receive voluntary contributions for the maintenance of monuments. By the fourth clause the monuments in charge of the Commissioners or county councils are to be exempt from rates, taxes and duties, including the State duty. The public are to have access to the monuments under such regulations as the council or Commissioners shall prescribe. There is to be no limitation as to age or character, for the word monument is to be taken as meaning any structure, erection or monument of historic or architectural interest, or any remains thereof. By the slight change the operation of the protection becomes more comprehensive. Since 1882 it might be supposed that whatever was to be considered as archæological in an official sense was something which was not beautiful and of doubtful use. But if the Act should pass, an example of Gothic architecture need not be treated as if it were a freak which was outside the pale of scientific archæology, and was not deserving of any attention by an official from Whitehall.

It will be observed the proposals are simple. Nobody can say they are revolutionary. Owners of property will, we hope, soon realise how little they will lose if they resolve to make the Act operative. They will escape a source of expense, and will still be entitled to claim rights over a monument. As the conduct of the Bill in the House of Lords will be undertaken by Lord Avebury, who as Sir John Lubbock was the first legislator who sought the preservation of monuments with the aid of Parliament, there is little doubt the Bill will become law in the current session. The county councils, it may be assumed, will not refuse to carry out the clauses in a becoming manner. Probably what will be most needed will be some restriction to prevent the acquirement of too many remains, which have no claim for favour except that of age. On that account it is to be regretted the Society of Antiquaries was not appointed as a consultative authority.

THE NEW GALLERY.

A VISITOR to the New Gallery this year must see the influence of contending forces in the numerous works which are exhibited. There is much that would be admissible in other London galleries, but there is also much which would be debarred from appearing elsewhere, unless, indeed, one of the French exhibitions was charitable. How so much variety can coexist may not be plain, but it certainly suggests the catholicity of the directors and consulting committee. Whether the representatives of the different schools are satisfied with the partition of the wall-space is another question. If we take the three principal galleries on the ground floor, what may be called ordinary pictures appear to be in greater numbers than usual. But if we include the crowd in the balcony, then there is no doubt the pictures and drawings which are supposed to be characteristic of the New Gallery, if not of the New Time, are in a majority. It is needless to say there are great differences amongst the latter, and they are not all evidence of genius. But deficiency in skill is made up by ambitious aim. Carlyle describes a signboard in Edinburgh, in which the shopkeeper had represented a pair of leather breeches, with the motto "Sic itur ad astra" inscribed between the legs. A similar aspiration is evident in many works to be seen in the Gallery. They are very humble in idea and quality, but they bear titles or in some way reveal the creator's belief about superiority to the majority of artists. Odd as many of these pictures are, they suggest the existence of a class of patrons who prefer them. There is a limit to the self-sacrifice of painters and few can go on for years without some appreciation. If there are people who prefer figures which were completed without any aid from a living model, it is only fair they should be provided with whatever they are willing to pay for in sterling coin. The pictures may also be looked on from another point of view. We can suppose them to be signs of weaknesses, like the diseases of infancy, which artists have to pass through, and their careers may be all the more healthy from having suffered from indigestion and inflammations during a few years. At all events, a visitor who is unable to make allowances for a great many novelties which may seem to him incomprehensible is likely to be disappointed when he visits the exhibition.

In the South Room there are two pictures which uphold the traditions of the Gallery. One is the *Spear of Ithuriel*, by Mrs. Evelyn de Morgan. Eve, who is lying alone on the ground almost covered with roses, has much of the gauntness which is to be expected in a certain class of works. The angel also could not be considered to have a fine physique, by either Greek sculptors or modern trainers. What gives perhaps the greatest interest to the work are the crowds of angels, who form, as it were, a bodily nimbus for Ithuriel. Each consists of a head and a pair of blue wings, which, after all, is the easiest way of suggesting a disembodied spirit. But as repetition is supposed to be necessary in ornament, and these are only ornamental appendages, the likeness between all the heads is so great they might have been taken from one model. A rival to it is another scene from "Paradise Lost," Mr. Spencer Stanhope's *Expulsion*, which represents Adam and Eve thrust forth from Paradise by an angel. We hope we shall not be considered irreverential for saying that so angelic a swell was never seen in an exhibition. Neither Raphael nor Fra Angelico have attempted to depict so expensive a uniform. The angel is clad in golden armour and carries a golden sword. The artist sought to express the utmost realism, and accordingly the armour appears to be produced in gesso, or some other material that becomes a relief and bears gilding. Over the gold a pink scarf is thrown, and as the colour is repeated in the roses and other flowers the angel's figure has not that isolation which might be imagined. Before so celestial a warrior Adam and Eve could not help appearing a miserable pair, but it is impossible not to sympathise with them, for we feel they are overpowered. Milton was inspired by a more satisfactory notion of the event, for he speaks of the evicting angel coming "clad as man to meet man," and over the lucid armour "a military vest of purple flow'd," as if to conceal its terrors from human sight. The artist is no less careful about the frame or shrine which encloses the picture. It is divided into a series of compartments, which are richly gilded, but the open ornament has a basis of red, and thus from the employment of the colour the whole work has remarkable unity. The *Expulsion* should not be considered simply as a painting, for it is rather a combination of all the arts, and in one way it is likely to be considered the most remarkable work of the year. Facing it is Mr. Frank Brangwyn's *Charity*; it suggests some weird piece of tapestry from which much of the colouring had faded or changed. Many wretched beings, young and old, lame, blind and suffering from other miseries, are surrounding a female figure who appears to give them some mystic restorative, by which if not healed they become consoled. It is a further revelation of the artist's power to depict human misery, and which makes him the most competent of modern painters to illustrate the "Inferno." Of another class is *The Holy Mother: An Evening in Nazareth*, by Mr. Herbert Schmalz. It has a tenderness of expression which is unusual in similar pictures produced in this country. The colours employed are mainly white and grey, and if photographed it would be a successful competitor with the Munich prints by Müller and others which are so common in shop windows near churches. *The Enchanted Sea*, by Mr. H. A. Payne, of the Birmingham School of Art, shows a lady who is as sad as Dürer's "Melancholia," or as Dante at Lake Cocytus, seated beside water in which heads are floating. Mrs. Normand has two excellent heads of girls, *The Roses of Youth*, and *Her Eyes are Zones of Silent Prayer*, which are preferable to many of her goddesses. Mr. Boughton, we imagine, did not give much attention to the model when he was painting his *Song of Spring* and *Ashes of Roses*. The faces are a relief from his Puritan and Dutch women, but heads, hands and other details appear to be imaginative. Mr. Southall's *Lorenzo and Isabella* is so hard and quaint, and is painted in such glaring colours, it is unfair to suggest by the motto the work was inspired by Keats's version of the legend. Amidst so much which is beyond the earth Mr. Fred Yates's *Girl Making a Basket*, which is unpretentious and painted with a quiet harmony of colours, becomes very interesting. Mr. Harold Speed's *April* is so expressive of the month, the flesh has become verdant. Mr. Orrock's *Morwick Mill* is a very boldly painted landscape, and rich in colour, but it needs those advantages, for an uglier mill could not be selected for representation. It says much for Mr. Hallé's *Mr. Robert Parfitt* that although only a head it is so vigorously painted it secures more attention on entering the room than many of the larger works near it. His *Fatima*, who is about to visit the blue-room, is not so successful. Mrs. Perugini's *Bill, Son of Major Percy Browne*, is admirably painted, although the subject is perhaps over-demure for a boy. The Egyptian Society should purchase Mr. Frank Dillon's *Philæ*, for a more eloquent appeal for the safeguarding and conservation of the Nile Temple could not be produced.

In the West Room there are several interesting paintings. Mr. F. D. Millet always has bright interiors, despite our foggy climate. *Shall I?* a girl in white writing at a table, is one of his pictures, and seems to be especially adapted for the print-dealer. Mr. Edward Stott's *Widow's Acre* is a very simple farmyard scene, and apparently was painted from nature at the close of day, for it has the great virtue of sincerity, which is not always prevalent in the New Gallery. *The Siren*, by Mr. George Wetherbee, has the advantage of telling the story in the simplest way. Only one girl is visible, and there is no suggestion of the remains of former victims. The water foams over the rocks, and the Greek boat seems to be driven by some force that is irresistible and superior to the winds. Mr. H. W. Fry's *Ave Maria* is a figure of a monk telling his beads; the expression of the face has been rendered with great effect, but so simple a subject seems out of keeping with the mass of gilded wood which surrounds it. The long painting by Sir J. D. Linton is of so much importance it should have had a place in the principal gallery of the Royal Academy. It is entitled *Boccaccio, the Opening Scene in the "Decamerone."* A long time has elapsed since the painter produced a work with so many figures. In earlier efforts the attention to costume and accessories was marked, and his later figures of women were commonly supposed to be portraits The new picture does not emphasise individuality or archæology. The majority of the listeners are of the heavy if not corpulent type which so many Italian painters have depicted, and they show the listlessness which so many painted groups record. But there is one strange oversight. The garden in the picture is supposed to overlook Florence. But the "Decamerone" represents the scene to be near Naples. Moreover, the stories were composed by the author when he lived in Naples, and in spirit they correspond with the manners of the South, while they are entirely opposed to the Puritanism which prevailed in Florence. Sir J. D. Linton's work, however, fairly realises what is proposed, and has as little formalism about it as the most critical could desire. Prehistoric scenes generally are made terrible Mr. E. Sichel's *Lake Dwellers* is an exception. The man and woman who are fishing from the platform are almost idyllic. On the opposite wall Mr. M. Hale's *Sea Wolves' Raid* reveals the kind of incidents to which people were subjected in a primitive age, and the two should be contrasted. Mr. Peppercorn's *Evening* could hardly be more sombre, especially as the elements are restricted to a hill with water near it. The *Home of Caedwalla, King of Gwynned*, by Mr. Thorne Waite, will surprise those who are only acquainted with his pastoral scenes. A more advantageous site for the palace of a feudal chief could not be imagined. The point of view is elevated, and we look down on mountains which surround a flat rocky region where was the chief's house. In the background is another range of mountains. It was difficult to attack such a position, which could be defended by a few men. Mr. Formilli is known as a clever decorator, but his pictures in the West Room show he is no less skilful as a landscapist. Mr. F. W. W. Topham's *Arco di Augusto, Perugia*, is an admirable representation of a work which, although supposed by archæologists to belong to a later date, has the characteristics of Roman construction in the noblest period. The *Loch Ness* of Mr. Watts, R.A., will gratify the Nestor's admirers. Fascinated by the colours which are found at times in the North, he has introduced a variety which would daunt professed landscapists. The sky almost quivers in its golden mist. Mr. Watts shows his power of characterisation in *Wilfrid S Blunt, Esq.*, and few young men would attempt the *Miss Lena Duff Gordon* on so coarse a canvas. Mr. Nettleship is as powerful as ever in his two animal pieces. Mr. Hallé's *Sirens and Invocation* introduce figures becomingly draped. Lady Alma-Tadema's *The Poet's Flower* is an exquisite cabinet piece. Mr. J. MacWhirter's *Gates of the Forest, Sherwood*, suggests the solemnity of the place, although we see only a few trees and a sunset in the distance. Another excellent landscape is Mr. Wait's *Silver and Gold of Autumn*, showing a stream surrounded with an abundance of wild plants.

In the North Room there are several excellent portraits. Sir George Reid is most effective in his *Andrew Martin Fairbairn, D.D., Principal of Mansfield College, Oxford.* In it we see one of those characteristic Northern heads that are successful wherever found. There is nothing of the Oxford Don about the subject, but with so much shrewdness and manliness it is no wonder the Principal has gained prominence in Oxford. *Macleod of Macleod* is a different type of subject, but is no less ably represented. It would have been an advantage if the *Mrs. Temperley* and the *Mrs. J. J. Shannon* were not so widely separated. The pose, dress and treatment have so much resemblance, the two portraits appear to be "pendants." It would be difficult to discriminate between them and to decide which is the more successful, or in which Mr. Shannon has attained the more brilliant result. Mr. J. S. Sargent has a portrait of a child, the *Hon. Victoria Stanley*, who is clad in a scarlet jacket and a white dress. It is not what would be called an artistic costume, and the colours are undoubtedly hard. The artist has not in any way softened the effect. Dressmakers will be gratified by the prominence given to their works, but amidst a collection of ancestral portraits the picture will not suggest aristocratic repose. There could hardly be a stronger contrast than is presented by Mr. J. S. Pickering's *Spires that Spin and Toil*, a view of a manufacturing town with countless chimneys, and his *Silence of the Hills*, a solemn, craggy scene, which we could easily imagine was often selected by a Covenanter for his devotions. *The Boat Race*, by Mr. J. R. Reid, shows a stream in which toy sailboats are competing. It is a brilliant summer scene, and an opportunity to increase the colour effect is created by introducing a gipsy woman as a spectator. In *A Water Baby*, Mr. Herbert J. Draper is more suggestive of Etty than of Leighton. The child has a large shell for a cradle, which is placed on a ledge of rock. It is a pleasant incident, which enables the artist to further prove his skill in figure drawing. *Severn Side* by Miss Bromley Martin, is a vigorous painting of two girls amidst flowers near the river side. *Ulysses and the Sirens*, by Herr Von Glehn, shows an adaptation of an Impressionist's device, for the sirens have the yellow flesh which is sometimes seen in modern French works. The two pictures by Mr. T. Austen Brown are French in style, as in subjects. *Wayside Pasture* is very dark, but we can see a woman in a red gown guiding some black cattle. In the *French Peasant at his Winnowing Mill* he shows a strongly marked contrast between light and darkness, which is admirably rendered. Mr. Leslie Thomson's *Summer Gold* represents a party of girls bathing, but the sky occupies about five-sixths of the picture. It is therefore a skyscape rather than a seascape and is undoubtedly interesting. Mr. Perugini's *Sea Nymph* shows a girl draped in very light blue skipping on the sands, and charming from the gracefulness of the figure. Mr. J. W. Godward's *The Toilet* presents a Roman lady dressing apparently in one of the public baths, and probably for the first time in a modern English painting telemones are used as part of the decoration; in size they are less massive than those found in Pompeii. Mr. Cleverley suggests the Mediæval spirit by his *Our Lady Sings Magnificat*, a group of maidens seated in the open air.

The efforts of the new school to attain an indefinite ideal can be judged from the 150 contributions which are to be found in the balcony, for many are remarkably curious as designs. Among them are, however, some interesting architectural drawings by Messrs. Barratt, Phené Spiers, T. M. Rooke and E. Clifford. In the Central Hall are examples of sculpture on a small scale, medals, metal-work, &c. The most important object is Mr. Alexander Fisher's overmantel in enamel and ivory, with three groups representing "The Garden of Hesperides," "Inspiration" and "The Knowing Angel." It is brilliant in colour, and from its richness and vigour would be an infinitely more interesting addition to a room than the usual overmantels, and it would be more telling as a piece of decoration than any ordinary picture. It is a work which should not be passed over by any visitor.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute was held on Monday evening last, Mr. William Emerson, president, in the chair.

The Hon. Secretary announced the decease of Benjamin Edward Ferrey, F.S.A., elected Associate in 1868 and Fellow 1877.

Certificates of competency to act as district surveyors in London have been granted to Messrs. Henry N. Kerr, W. H. Woodward and E. N. Young.

Mr. Killingworth Hedges read a paper on

The Protection of Public Buildings from Lightning.

Mr. Killingworth Hedges began by a reference to points brought forward in his paper on "The Fire Risks of Electric Lighting," read before the Institute in 1884, and in Colonel Parnell's paper on "The Action of Lightning Strokes in Regard to the Metals and Chimneys of Buildings," read before the Institute in the same year. In the same connection were quoted opinions of Dr. Oliver Lodge, F.R.S., and Professor Kirchoff, of Berlin. Since the report of the Lightning-Rod Conference in 1882 there had been no official report on the effect of lightning strokes on buildings protected by conductors, and he hoped his paper would elicit some expression of opinion from architects, who had more opportunities of observing such effects than engineers. Discussing the action of a lightning flash, the author called special attention to its surging effec,, which has very destructive tendencies. Lightning conductorst as usually arranged, do not guard at all against what Dr. Lodge termed the "spitting" action. They may serve to discharge or pass off on to the atmosphere the induced electricity from the earth and from the buildings upon it; but as lightning protectors they are so arranged that should they be actually struck by a flash the building would probably be set on fire; there was a chance, too, that a portion of the electric current would be diverted into unearthed metalwork and prove most destructive in its tortuous course to earth. For the sake of these public buildings it was necessary to explode the fallacy that a properly-constructed lightning-rod never failed. During thunderstorms the atmosphere and all conducting objects in the immediate neighbourhood become charged with electricity at a constantly increasing potential or intensity as we recede from the earth. Even objects directly on the earth, such as railroad tracks, high fences, &c., become charged and will spark. The characteristics of a lightning-flash more particularly concerning the present subject are:—(1) Surging, due to the oscillatory character of the spark, and consisting of a disruptive discharge, sudden and violent, more like the blow of a hammer; (2) Self-induction, a property which gives rise to counter force or choking effect, noticeable in straight wires, but much more pronounced in coils of wire; (3) Side-flash, the result of self-induction. A disruptive discharge will often leave what would ordinarily be called an excellent conductor, and side-flash through the air to other much worse conductors; for instance, the lightning-rod may be struck, but instead of following the course provided a side-flash may select its own path through a wall of brick or stone to a neighbouring gas-pipe or bell-wire. The phenomena of surging and self-induction were described by the author and illustrated by diagrams.

In dealing with the question whether our public buildings are efficiently protected, the author first reviewed the methods formerly adopted for the protection of St. Paul's Cathedral The spire of old St. Paul's was partially damaged by lightning three times, and its destruction by fire in 1561 was attributed to the same cause. The author had recently to report on the lightning conductors put up at the Cathedral in 1872. These took the place of the original system erected under the advice of the Royal Society about 144 years ago. They were considered at the time to be the most advanced system of protection. The system was thoroughly overhauled by the author for the purposes of his report, and pronounced to be open to serious criticism. Elements of danger due to inadequate conductors, faulty connections, non-protection and other causes were found to exist. Of the dome, statues, choir and towers, none were efficiently protected The author read extracts from his report, and fully detailed the weak points in the installation This was an average specimen of the method of protecting public buildings. That more disasters do not happen is due to good luck, and to the fact that the warm air ascending from the numerous chimneys in large towns helps to lessen the violence of thunderstorms; but should a direct flash strike an insufficiently protected edifice, a disaster would occur. Descriptions of continental and American practice were given by the author, and details of installations on public buildings abroad which he had inspected. The method adopted at the cathedral of Notre-Dame, Paris, the author considered somewhat lacking; that at Cologne Cathedral was far more advanced, the work being carefully executed, and of a design which might be followed with safety. At the Palais de Justice, Brussels, was installed the most recent adaptation of the Melsen system, details of which were given. The author next gave an account of his rearrangement of conductors for the better protection of St Paul's. The plan recommended by him, taking into consideration the large amount of copper cable already disposed about the building, was, first, to run three new cables from the metal-work of the framework supporting the cross to the roof of the dome (making interconnection with the iron supports of the structure); there connecting them with the eight existing conductors and reuniting them at the base of the dome to the existing system, which is increased by running a new ½-inch seven-ply copper cable on the top of the parapet entirely round the building. From this horizontal conductor, aigrettes, consisting of five pointed copper rods, were teed at intervals by means of special brass boxes tinned inside, into which the cable was placed, the aigrettes first secured by binding and the whole united by running in hard solder. The method of obtaining efficient new earths (a matter of difficulty owing to the nature of the ground), of the process of earth attachment, and the general arrangements were fully detailed and illustrated.

The installation should not be taken as a model one, except, perhaps, with reference to similar ecclesiastical structures, which do not lend themselves very readily to the improved methods of protection, such as the author recommended for all new public buildings. It is almost impossible to draw up a set of rules to be universally applicable; each building should be carefully studied, first, as regards its position with neighbouring structures; secondly, as to the disposition of the metal employed; and, thirdly, with reference to the subsoil and its suitability for earthing the conductors.

Under the head of practical questions, the author then recapitulated a number of rules and principles laid down by Professor Lodge, supplemented with suggestions of his own, his aim being to elucidate the possibilities of improvements in the erection and testing of lightning conductors. In conclusion, he warned those who had to specify methods of protection to put no faith in the generally received opinion that a certain space contiguous to a lightning-rod is completely protected by it, so that if the rod is raised high enough a building in this protected region is safe. Nothing was more illusory; no space near a rod could be definitely styled an area of protection, for it is possible to receive violent sparks or shocks from the conductor itself without taking into account the phenomena of surging and self-induction.

The paper was further illustrated by slides giving views of St. Paul's, Westminster Abbey, Notre-Dame and Cologne Cathedrals, and Rockliffe Church; also of lightning discharges showing, first, the popular representation of a flash of lightning, followed by others taken from photographs of actual discharges. These were lent by the Royal Meteorological Society.

On the table were specimens of the fittings designed by the author for St. Paul's Cathedral.

ARCHÆOLOGICAL DISCOVERIES IN EGYPT, 1899 1900.

UNDER the auspices of six different institutions, no less than seven principal excavations have been carried on, says the correspondent of the *Times* in Cairo, during the past winter. The Museum of Ghizeh (soon destined to become the museum of Kasr el Nil, in which quarter of Cairo its handsome new building approaches completion) has been digging at Sakkara near the Pyramid of Horæ, its object being to find the galleries with burials of princes and princesses which may be expected from the analogy of Dahshur. As yet, however, the most important result has been a totally unexpected one. An unfinished burial of the Saitic period has been found to the south of the Pyramid. At the bottom of a well 20 metres deep a narrow doorway leads into a chamber tenanted only by a huge sarcophagus never destined to be occupied by its proprietor. The raising of the lid about 2 feet above its place by six little pillars of masonry, the notes in demotic on the progress of the work written in black ink by the overseer on the sides of the wall, and various other signs of unfinished construction throw a valuable and much needed light on the methods of erection of such a monument.

The Berlin Museum has been excavating on the site of the Ra Sanctuary of Racnuser, between Sakkara and Ghizeh. This, the first excavation of one of the Ra Sanctuaries so often mentioned in old Empire inscriptions of the fifth and seventh dynasties, was begun last year, when a great "schlachthof" with trenches deeper at one end than at the other, to carry away the blood of the victims, and an immense alabaster altar were discovered. This year there have been found a number of bas-reliefs depicting for the most part the ceremonies of the Sed festival. This institution, though of great importance and frequently mentioned as one of the marks by which Egyptian chronology is fixed, is not depicted on any previously discovered monument. A nome list discovered on this site is also of great interest, as most of our information about the nomes of Egypt dates from Ptolemaic times.

The Musée Guimet has been represented by M. Gayet, who has been conducting some excavations at Shekh Abadeh, the ancient Antinoë. He does not appear to have been fortunate enough to discover anything more interesting than some Coptic embroideries.

The Egyptian Exploration Fund has achieved a remarkable success at Abydos, where the work has been conducted by Professor Flinders Petrie and Mr. Mace. For the previous four years Abydos had been given over to M. Amélineau, who had had the luck, denied to his great predecessor Mariette, to light upon the tombs of the kings of the first three dynasties. The objects found in these tombs—stelæ of a rude style, stone bowls, flint knives, jars with clay sealings imprinted with short texts—roused the greatest interest among archæologists, but the manner in which the excavations were made and recorded provoked from the same quarter a storm of hostile comment. M. Amélineau's control over his workmen was so imperfect that many of his finest objects were stolen and passed through dealers' hands, without any record of the details of their position, into various European collections.

In view of the great importance of the site, Professor Petrie determined to go over the ground again more thoroughly and scientifically, and search the rubbish heaps of M. Amélineau's work The result has brilliantly justified him He has discovered a royal tomb—that of Merneit, a previously unknown king More than sixty inscribed pieces of pottery have enabled him, as he believes, to identify three of the royal names of the Abydos tombs with those previously known from the lists.

For the Egyptian Research Account work has been carried on by Mr. Garstang among some tombs near Abydos. He has come upon several undisturbed burials, both of the twelfth and eighteenth dynasty, and some which it is hoped may belong to that obscure "intermediate" period between the two, the length of which the Berlin Egyptologists, on the strength of an astronomical date in a twelfth-dynasty papyrus, propose to reduce to about 300 years. Mr. Garstang hopes from the many small objects which he has found to be able to establish some types of intermediate pottery, and his results may thus indirectly contribute to the settlement of this disputed date.

The liberality of the University of California has supported two undertakings in Egypt during the past season. At Kuft Mr. Reisner's thorough but unsuccessful attempt to find the long-sought cemetery of Coptos seems to prove that this cemetery lay just outside the city and that the gradual rise of the valley of the Nile during the last 2,000 years has buried it beneath the cultivation. A feature of interest in his publication will be the discovery of a camp for flint-working in the desert.

At Umm el Barakât, on the southern edge of the Fayum, Messrs. Grenfell and Hunt, who have transferred their allegiance to the above-mentioned American institution, have just completed the fourth season of their work of searching for papyri in Egypt. Here they have discovered the ruins of a large town, whose ancient name appears to have been Tebtunis, and whose very existence was hitherto unknown either to archæologists or to native diggers. To judge from the remains, the life of this city extended from Ptolemaic down to Arabic times. Their excavations in the town yielded them many papyri, especially from the houses of the priests in the temple enclosure. These date from the first to the third century A D An early Coptic church with curious frescoes and inscriptions on the walls was also brought to light. In the tombs adjacent to the town the discovery of a very large cemetery, the earliest monuments dating from the twelfth dynasty, is of especial importance for determining the position and height of Lake Mœris. It proves that the estimate of Captain Lyons, which places the level of Lake Mœris at 23 metres above the sea, is the highest which can be determined, these remains, which are the first to be discovered on the second of the three plateaus into which the Fayum is divided, being also at about that level. The exaggerated nature of Herodotus's statement as to the size of the lake is thus finally proved.

In the Ptolemaic cemetery the excavators found about sixty mummies in good preservation, besides others damaged by damp. These had papyrus cartonnage like those found by Professor Petrie at Gurub. Much more remarkable than this was the extraordinary discovery, among several thousand specimens of mummified crocodile, the local deity of the Fayum, of some crocodiles wrapped up in papyrus sheets and stuffed in the head and stomach with papyrus rolls. Among these are many large and fine rolls, but, though some have not yet been examined, it is feared that they do not contain important literary remains. All are of a late Ptolemaic date. The Greek papyri are being taken to England for publication; the demotic rolls remain at the museum of Ghizeh.

Messrs Grenfell and Hunt deserve to be congratulated on the result of their season's work, the general result of which is nearly to double the extant quantity of Ptolemaic papyri. Among miscellaneous items mention should be made of a remarkable tomb discovered by Mr. Carter Wilson at Thebes and of a very fine statue in beaten copper, discovered in fragments at Kom el Ahmar more than a year ago by Mr. J E. Quibell, which has now been successfully put together and placed in the museum at Ghizeh. Mr. Quibell believes that the statue represents Pepi I., a king of the sixth dynasty, and the statuette of the same material which was discovered inside the larger figure is probably his son, Ment-em-sat. The remarkable beauty of this statue, which is evidently a faithful portrait, and the unique nature of the material and of the process to which it was subjected should render Mr. Quibell's forthcoming publication of the greatest interest to the archæological world.

Lastly, a word should be added as to the danger which threatens the Temple of Karnak after the fall of the nine columns last year. Two of these columns fell against the pylon and dangerously unsettled that huge mass of masonry, the whole of which now threatens to topple over inwards and knock down like ninepins the famous rows of columns of the hypostyle hall. Every precaution that can be devised to avert this catastrophe is being taken by M. Maspéro and his staff, whose workmen, by the erection of a scaffolding between the north and south sides of the pylon and of supports of iron, wood and earth, are endeavouring to hold the masonry in its place. The critical period will be during the Nile flood this year, whose subsidence may cause a dangerous movement of the soil. After that an attempt will be made to take down the wall of the affected angle of the pylon and rebuild it tier by tier; but unless and until this can be done the European public must be prepared to hear of an unparalleled disaster which no human science or effort may be able to avert.

BUDDHA'S TOMB.

THE Pipratum Stupa was among the spots recently visited by Professor Rhys Davids, who was in search of all the places in India sacred to Gautama, the founder of Buddhism. Pipratum Stupa is now believed to be the burial-place of Buddha, and Professor Davids has given a most interesting account of this historic spot. The Basti district, on the west of Gorakhpurr, is one especially associated with incidents in the life of the Buddha and the Sakya tribe from which he sprang. Several of the stone frontier pillars erected by the famous Asoka are to be found here, and we have records on these as to the great hero's visit to various shrines. The most important of these pillars is that erected at Padaria, which was first excavated by Dr. Fuhrer, and bears an inscription by Asoka, in which it is said that it marked the spot sacred to all the faithful in the Lumbini garden, where the Buddha was born. His mother was travelling from the city of Kapilavastu, the Sakya people's capital, when she was suddenly attacked by the pains of labour, and the sage was born in this garden. About B.C. 253 Asoka set up this interesting pillar. It was very important for all students of Buddhism to identify this site. The ruins of Kapilavastu are on the banks of the Banganga river, which comes down from the Himalayas and waters a very fertile plain, which is considerably cultivated. This region is at the present day divided into grants of land belonging to Europeans, and within the last fifty years has been transformed from virgin forest and primeval jungle into rich and well-watered plains. The whole district is covered with small mounds or kots, marking in most instances what are known as stupas, or Buddhist burial-places. Near the village of Piprahwa one of the largest of these is to be found, and it derives its name from the place. This stupa is on the land of the Birdpur grant, which was in charge of Mr. W. Pepe, who was attracted by its size, and resolved to commence excavations upon it. The mound is about 21 feet above the plain, and is about 116 feet in diameter at the base. These excavations were begun in January 1898, and a steatite vase filled with small ornaments and beads of crystal, gold, amethyst and small gilt objects was found. The stupa is of solid brickwork, but down the centre is a curious pipe-like drain, whose purpose is not clear. Eighteen feet below the surface a curious discovery was made. A large stone slab about 4 feet by 2 feet was found, and this was manifestly the cover of some receptacle. On removing this there was discovered a stone chest containing three vases and a box of steatite, as well as a curious crystal bowl. These were all finely finished and polished, presenting the appearance of glass. It was plain that some valuable relics were concealed here. The urns contained gold ornaments and strange impressions of a woman's figure, the upper part of the body being nude, as in Parthian objects of a similar kind There were also figures of elephants and lions, as well as scroll ornaments, evidently taken from engraved gems and tokens. There were, besides, pieces which were marked with the savastika or Buddhist cross, the whole indicating a deposit of personal ornaments of very large value, several pearls being of considerable size. The stones forming the beads were red and white garnet, amethyst, topaz and coral, while a few bits of wire showed that these had once formed necklaces.

It is very clear that this burial shrine had been erected to some person of note. One of the vases is inscribed in Pali letters of archaic type, and Professor Rhys Davids reads the words as follows:—"This shrine for the relics of the Buddha, the August one, is that of the Sakyas, the brethren of the Distinguished One, in association with their sisters, and with their children and their wives." If we regard this inscription as genuine (and there seems no reason to doubt it), we have here the burial-place of, at least, a portion of the Buddha, and the bones found in the vases were those from his holy body, taken from the funeral pyre after his cremation.

The importance of such a discovery is certainly great, and it remains to be seen if we are justified in identifying the site visited by Professor Rhys Davids as the burial-place of the great sage. The Professor gives an unequivocal answer in the affirmative, and he puts his reasons very clearly. First, the place is exactly that where one would naturally expect the remains of Buddha to be interred by his followers. The site is close to his birthplace in the Lumbini garden, and near his native town, Kapilavastu, and in the Sakya country everything seems probable. But the evidence of the inscription is still more important; there can be no doubt that the script is older than the age of Asoka (B C. 253), and both the writing and the phraseology—the omission of long vowels and the double consonants—point to it as being older than the time when the pillars were erected. The number of articles of feminine adornment Professor Rhys Davids accounts for as offerings to Gautama by female disciples, perhaps "the sisters and wives of the Sakyas" in the inscription. Fired with enthusiasm and devotion, those women had cast their wealth lavishly into the grave of the August and Distinguished One. Whatever may be the conclusion arrived at by further investigation or research, it is very safe to say that many of the holy places of Christian antiquity have nothing like such clear evidence as to their identification as is now advanced for that of the Buddha's Tomb.

TESSERÆ.

Drawings by Du Cerceau.

TWO splendid folio volumes of drawings are preserved in the King's Library of the British Museum. The drawings are executed very carefully and cleverly in outline, slightly shadowed and tinted, upon vellum. The series comprises plans and views of the chief royal palaces of France, together with some original designs by Jacques Androuet du Cerceau, one of the most eminent among the originators of the Renaissance in France, born about 1515. These valuable and interesting drawings were made for Catherine de Medicis, and certainly formed part of the royal collection of France. How they subsequently became transferred to their present place on the shelves of our great public library is not recorded. All the earlier examples are characteristic of the transitional period when they were erected. In plan they retain much of the type of a Mediæval fortification, and this may have been probably occasioned in some cases by the erection of the palaces on the foundations of some more ancient castles of a strictly military character But there are few that retain any provisions whatever for active defence; the bastions become clusters of embowed windows, enriched with many architectural embellishments, and the intervening curtains are occupied entirely by wide windows, lofty chimneys and other features of Domestic architecture, to the exclusion of the loopholes and frowning machicolations of the preceding ages Those highly picturesque buildings, the Château de Chambourg and that of St. Germain au Laye, for example, are buildings of this mixed character. They are described as Bâtiments de Plaisance, and present throughout the evidence of their having been built for agreeable residences; whilst, on the contrary, the plan alone of these buildings would convey the idea of a strictly fortified place, with moat and drawbridge and like appendages. The Châteaux of Blois and of Amboise are interesting examples of this picturesque transitional style, one of the prominent features of which is the very steep and conical roof, enriched by most elaborate cresting and finials; the latter rising often to a considerable height, sometimes of metal and sometimes executed in glazed and coloured terra-cotta. The variety imparted by these means to the sky-lines of the roofs is one of the chief sources of the picturesque in the buildings of this date in the north of Europe. It is worthy of note that at the Château Amboise, the chapel, which is conspicuous in the group of domestic buildings which compose the château, is strictly Gothic in general outline as well as in its details, having lofty and slender pinnacles and buttresses and traceried windows, whilst every other part of the palace is in that particular phase of the Renaissance which prevailed in France after the general discontinuance of the Gothic manner. This distinction would seem to indicate that a sense was felt of the propriety of adopting for ecclesiastical buildings a character of architecture differing from that employed in designing domestic buildings.

The Doric Column.

Penetrate as far as we may into the history of Greek architecture, the column still appears as a frequent member. Both history and its own characteristics declare its derivation from wood. The historical references are well known, and need not be rehearsed here, but the traces of wooden construction in the column itself are perhaps worthy of mention. Besides the echinus, the astragal—whether groove or moulding—the plinth and the projecting abacus, which are so difficult of explanation on any other supposition, the following characteristics add something to the plausibility of the wood-derivation theory. In the Ionic and Corinthian orders the flutes are parted by narrow, convex lintels, the remnants of the rounded surface in which the flutes are imagined to be cut. In most of the examples of the older Doric style the flutes meet in sharp edges, so that it seems hopeless to discover the basal form the architect had in mind. In this discouraging situation, however, there is usually found a little three-cornered convexity between the tops of the flutes. If this three-cornered piece consisted of two planes meeting in a ridge which was continuous with the edge between the flutes below, the prism would be suggested as the original or fundamental form; but it is not so composed. It is a smooth convexity, a segment of the surface of a cylinder; so that, if a transverse section of the column were made a centimetre below the echinus, it would be a circle, either unbroken or but slightly indented. Further, one of the temples at Pæstum shows columns whose flutes terminate a considerable distance below the echinus, leaving a wide zone at the top of the shaft to testify to the artist's idea. Finally, a Doric column was found at Priene with regular lintels, such as the Ionic and Corinthian columns have. The "proto-Doric" forms are without any such marks. No convexities intervene anywhere between the flutes; the angularity of the prism obtains from top to bottom. The flutes are sometimes omitted, leaving the prism unmodified, or if they are present at least one side is left unfluted for the reception of hieroglyphics.

French Mortuary Chapels.

At a short distance from the abbey of Fontevrault, in the ancient cemetery, is a curious building, a mortuary chapel dedicated to St. Catherine, founded in 1225 by Ala, Duchess of Bourbon, a nun of the abbey. It is a structure of the thirteenth century, square in plan, with a lofty vault, which has six ribs meeting in an open louvre at the top, having very much the appearance of a chimney. The mouldings are all of the character of the thirteenth century; the arrangement of the double squinches across the angles is very good. The arches spring from plain corbels, but they are all mutilated; at the points of the arches are small figures of angels, one carrying a chalice. At one corner is a turret staircase, very narrow, almost concealed in the walls; this staircase leads to the outside of the roof and up an angle to an opening in the base of the louvre, probably for the purpose of inserting a lighted candle in the louvre, which has a trefoil-headed window at the top of each face, just below the small pyramid which covers it. This louvre is called a bell-turret, but is much too small and narrow for that purpose. It may probably have been used for the lantern for the dead, a custom well known to French antiquaries. There are several lanterns for the dead in different parts of France. At Mauriac, in Auvergne, there is one of these lanterns in the cemetery, and a deed is extant of the donation in 1268 by one of the clergy for a candle to be lighted every Saturday in the lantern which he had built.

Frescoes of Dyce and Le Strange.

The frescoes executed by Dyce for the chancel of All Saints differ so essentially in motive and sentiment from the water-glass paintings designed by Le Strange at St. Albans, that they can hardly be compared. The former were begun at a time when the German heilige school was generally considered the best model of taste in decoration, and though Dyce invested his figures with a grace of colour and arrangement which was all his own, there is a certain tendency to academicism and over-refinement of handling in his work that is somewhat out of keeping with the architecture of the church. Le Strange went into the opposite extreme. He had on the east wall of St. Albans chancel to deal with ten large panels separated from each other by narrow slabs of alabaster. These he filled with ten paintings representing incidents in the life of Our Lord—treated, so far as the style of drawing is concerned, after a thoroughly archaic fashion—surrounding each with a broad border of colour, on which, however, the figures intrude so much as to leave the spectator in some doubt as to which is border and which is background. The effect was a little glaring at first, but time and London smoke has considerably toned down the hues, which at present are not inharmonious.

The Price Family as Glass Painters.

William Price the elder was the scholar and successor of Henry Giles of York. He first acquired fame by his Nativity, after Thornhill, at Christ Church in 1696. He then stained the Life of Christ, in six compartments, at Merton in 1702, for which he received 260*l*. This performance loses much of its beauty and effect by having each compartment enclosed in a frame of glaring yellow glass, which was a mere conceit and certainly an unsuccessful experiment. His brother, Joshua Price, restored with great success the windows at Queen's College, originally done by Abraham van Linge in 1631, which had been broken by the Puritans. The present date is 1715. The chiaroscuro or grisaille figures of apostles and prophets in the chapel at Magdalen are by his hand, and are preferred by Gilpin to any in Oxford. William Price the younger was employed for the windows in Westminster Abbey which were voted by Parliament and were put up in 1722 and 1735. Several windows at New College, Oxford, which he had procured from Flanders, originally taken from designs by Rubens and his scholars, were in a great degree made perfect by him. Bishop Benson procured by his hand the subject of the Resurrection for the window of his private chapel in the palace at Gloucester. At Witley, Worcestershire, Lord Foley placed several Scripture histories by him, which are dated 1729. He embellished a window of a cabinet-room at Wilton with equal taste.

NOTES AND COMMENTS.

One of the veterans of the Royal Society of Painters in Water-Colours is Mr. Carl Haag. He has been a member since 1850, and every year his carefully elaborated drawings of Eastern architecture and Eastern costume are regarded with interest. A week ago the artist celebrated his eightieth birthday. The occasion was seized to express the affection which is felt for the old artist, who after so long a residence cannot be considered as a foreigner. In addition to numerous individual congratulations addresses were presented by the Royal Society of Painters in Water-Colours, the Hampstead Art Society and the German Athenæum. At one time Mr. Haag painted several Scottish scenes by command of Her Majesty, but his fame is likely to rest upon his Eastern scenes, which have won approval from foreign as well as from English critics. It is to be hoped that many other pictures will be produced to uphold a reputation which has been long established.

The church of Notre-Dame des Vertus at Aubervilliers, about five miles from Paris, which was pillaged and then set on fire by some miscreants, was a rather ancient building. It was partly Gothic and partly Renaissance, forming a picturesque combination that is common in France. It was commenced during the reign of Francis I. and completed under the reign of Henry II. The tower, which is in a dangerous condition, although not destroyed, dates from 1544. The porch is somewhat later, having been erected in the seventeenth century. The church itself has long been recognised as a place of pilgrimage, and even the French kings made the journey. It is estimated by M. Girard, the architect who has charge of the building, that the reparation will cost at least 4,000*l*., but as the church was insured for over 20,000*l*. the money will be forthcoming. An attempt was made a year ago to burn the church, and it is considered by some of the authorities that a different motive than robbery must be sought for the attack on the ancient building.

On Monday last the mortuary chapel in the Rue Jean-Goujon, Paris, which marks the site of the bazaar which was destroyed by fire two years ago, was inaugurated by the Cardinal Archbishop of Paris. It was no doubt partly in recognition of the merit of the work that M. Albert Guilbert has been awarded the médaille d'honneur of the Salon for architecture. The building is of an elegant simplicity, in the style which was adopted in the reign of Louis XV. prior to the Revolution. There is a dome which has been adorned with paintings by M. Maignan. M. Guilbert is a pupil of M. André and of M. Laloux.

The corona, or candle-holder, in the Hildesheim cathedral is often presented as an example of the perfection which metal working attained in the eleventh century. It is nearly 20 feet in diameter, and is made up of a series of hoops or rings with towers and gates arranged round the circle, and formed of beaten copper. Similar coronæ are to be found in other German churches. The candle-holder, remarkable as it is, only retains some of its original characteristics. Three hundred years ago it was restored by a local goldsmith, and, as was to be expected, suffered in the process. In 1818 a common tinplate worker was called in, and as he either had no copper plates or was incompetent to employ them, his reparation, additions and "improvements" were formed out of common tin. When a commission was given some years ago for a reproduction of the work for the South Kensington Museum, Professor Küsthardt produced a corona which he concluded must correspond with its original form. The Minister of Ecclesiastical Affairs has decided upon having another restoration attempted, or rather an alteration of the corona in its present state, to bring it nearer to Professor Küsthardt's interpretation A trial piece will be first produced, and, if successful, the adaptation will be made thorough, including the introduction of the angels which have disappeared since 1601. Whether candles or electric light will be employed for lighting has yet to be decided.

The awards of the médailles d'honneur in this year's Salon are further evidence that they are not based on the works exhibited. M. Humbert, who obtains the medal for painting, is only represented by a couple of portraits of children. It is for other works he received the 154 votes which gained him the distinction, and especially for his wall painting in the Panthéon. The last work may be supposed to represent various virtues. In one picture is depicted a visitation of plague in old Paris. People are seen hastening to succour the afflicted. In another compartment men are shown hurrying to resist an invasion. In contrast with the exciting scenes is one which is idyllic, showing a family in an orchard; while in the fourth can be seen fishermen who are praying at sunset. This large painting is one of the most important of M. Humbert's undertakings, and it asserts its excellence although surrounded by many modern masterpieces. The medal for sculpture has been gained by M. Verlet, and the medal for engraving by M. Auguste Boulard.

ILLUSTRATIONS.

WESTMINSTER ABBEY: MODERN REREDOS. DOORS OF CHAMBER OF THE PYX. ANCIENT NORMAN CAPITAL (DETACHED).

The history of the altar or holy table in Westminster is considered by Dean Stanley to represent the history of the English Church. The altar of the eleventh century was to be found in the eastern extremity of the Abbey. In the thirteenth century the high altar was placed in front of St. Edward's Chapel. At the Reformation the wooden table, which is generally supposed to be still in the Confessor's Chapel, was brought down into the body of the church. Under Laud it was restored to its more easterly position. Queen Anne gave an altar-piece which had been used at Whitehall and at Hampton Court. It remained until 1824, when it was made over to the parish church of Burnham, near Bridgwater, where it remains. A plaster restoration of Bernasconi's screen was next set up. During the restoration of the Abbey under the late Sir Gilbert Scott, Lord John Thynne, the sub-dean, was able to obtain funds for the erection of a reredos in alabaster and mosaic. The money was mainly derived from the payment of visitors in the exhibition year 1862. Mr. Armstead filled in the frieze with groups representing incidents in the life of Our Lord, the larger niches were occupied with statues of the two patron saints of the church, St. Peter and St. Paul, and Moses and David as representative of the lawgivers and the poets, the four Evangelists and the four Prophets being in the smaller niches. The mosaic of the Last Supper was executed by Salviati from the design of Messrs. Clayton & Bell. The cedar table was carved by Messrs. Farmer & Brindley, the Biblical subjects being suggested by the late Bishop Wordsworth. The only part of the former structure that remains is the black and marble slab, which was apparently taken from the tomb of Anne of Cleves.

The Chamber of the Pyx, which is shown in another illustration, was unquestionably the treasury of the Abbey until the dissolution of the monasteries. Its old use suggested that it should be continued as a treasury, and the standard coins were deposited in it. A great many of the most valuable possessions of the State were placed there. It was also used for a time as a Record Office.

THE NEW PALACE FOR H.M. THE EMPEROR OF COREA.

We publish this week two views of a palace which is now being built in Seoul for the Emperor of Corea, from the designs of Mr. J. Reginald Harding, engineer-in-chief, Chinese Imperial Maritime Customs. The building, which is Ionic in style, is being erected of finely-dressed white granite quarried near Seoul. It will be nearly 200 feet long by 84 feet wide, and about 50 feet from the ground to the top of the entablature. One of the principal features will be the throne-room or audience hall, which will be 72 feet by 40 feet, by 40 feet high. The palace will contain an audience hall, a private audience hall, a banqueting hall, a council chamber, apartments for the Emperor and his immediate suite, besides quarters for a distinguished guest, and provision is made for the guard in the basement. The building is intended primarily as a reception palace for foreign princes or ministers, as the Emperor has other very extensive palaces for living in. The views are taken from a model carefully made to scale.

PROCESS ENGRAVING.*

WHEN I was asked to read a paper on process engraving before your learned Society I felt a certain amount of diffidence in accepting the honour—there are so many men who can theoretically place all the facts connected with the various processes before you much better than I, but at the risk of being thought egotistical I must claim a larger experience of the practical working of process than anyone else in this country. My only excuse for standing before you this evening is the fact that I have grown with this special art, having assisted my father when quite a youngster, and for the last twenty-two years have devoted myself entirely to its development, improvement and practical application. It is therefore as a worker—as a business man—I speak to you now. No doubt there are others present, as I say, theoretically qualified, and better able to endow this technical subject with literary merit than I am, and I shall make no effort to emulate them, but simply base all I have to say on my personal experience in working the process, to which I shall add a few general facts I have collected in my endeavour to make this brief history as interesting as possible.

The earliest form of engraving was that used by the Assyrians for the purpose of stamping impressions upon bricks and other articles in clay; other stamps were made in brass for marking cloth, and it is said that these stamps were also used for branding slaves. About the end of the fourteenth or the beginning of the fifteenth century the German card makers, it is believed, adopted the principle of engraving in relief for the purpose of impressing the outline of figures upon their cards, the outlines being afterwards filled up with colour

In the Spencer Library, formerly at Althorpe, there is a copy of the celebrated woodcut of "St. Christopher," dated 1423. Its authenticity has been so well established that its production may be accepted as the historical starting-point of this branch of the art of engraving. The impression was produced by printing and not by burnishing.

Engraving as a means of book illustration may be said to date, not from the time the art was discovered or first practised, but from the time when the plate being engraved means were at hand to readily multiply impressions from it.

It is recorded that Thomas Bewick and Robert Branston were the pioneers of wood engraving in England. Branston was originally a copper and steel-plate engraver. The earlier wood blocks were cut with knives, not gravers. It was to John Thompson, a pupil of Branston, that the art of wood engraving was indebted for its early progress He improved the tools, gave great care to the choice of material, and brought a large amount of practical study and artistic ability to the successfully achieved task of spreading abroad into a wider field the growing demand for wood engraving.

Without tracing wood engraving down to the present period, it is interesting to point out that the very element which worked so much evil to steel and copper engraving was soon active in lowering the artistic quality of wood engraving—that is to say, cheapness (one of the traits of education and civilisation). At the present day the same thing is happening, so I suppose it will always go on, the insidious influences of undue rapidity, cheapness and up-to-datism undermining artistic work. Wood engravers began to aim far beneath the aspiration of those who preached the older methods, apprentices began to do for wood engraving what inferior assistants had done for the old copper and steel engraving, and, in fact, artisans took the place of artists.

Amongst those who will always take a high rank in the modern English school of wood engraving are John Jackson, H. Linton, W. J. Linton, E. Landells, W. T. Green, J W. Whymper, W. H. Powis, Joseph Swain, W. L. Thomas, G. and E. Dalziel, Mason Jackson, and many others.

Before plunging into my subject—process—I will briefly describe wood engraving. The design is first made on a piece of boxwood, a specially hard wood which allows the engraver to cut clear and sharp In the case of a large cut these boxwood blocks are made of several small pieces, which are afterwards screwed together, so that sometimes ten or more engravers could work on the same design at the same time. Before the advent of process, when the *Graphic* and *Illustrated London News* were all engraved on wood, you will find, if you carefully examine the early numbers, fine white lines or cracks running right across some of the blocks. These were caused by the joins in the block. The design was generally drawn in pencil and body colour, the blocks being first coated with a white solution.

These methods were employed until about 1866, when instead of the drawings being made by the artists on the wood they began to be drawn on paper, and then photographed on to the block. This was a great improvement, because the artist could make his designs any size he wished and have them photographed down to the required size, and the drawing had no longer to be reversed.

My first experience in producing illustrations was in assisting my father in photographing drawings on wood. I remember working for some of the best and leading wood engravers of that period. My father invented a process for this purpose, which was afterwards adopted by the late John Swain. I have a vivid recollection of a very simple process worked by my father which he kept secret, it being too simple to patent. He took a photograph, *i.e.* an albumenised silver print, and pasted the photo face downwards on to the plain boxwood. For pasting he used some special glue of his own; when dry he merely rubbed the paper away with his finger by moistening it. The paper very easily coming away, the photograph was left on the wood. My father discovered this quite by accident; an old photograph having stuck on a wood block, he started rubbing the paper quite absent-mindedly, when he perceived that the albumenised film of the silver print remained on the wood.

The final step which brings us to the present time, though not by any means, I am sure, to the end of the chapter, is the superseding of the wood engraver by the mechanical or process engraver.

Photo-engraving, which is in reality process, is older than photography, since Niepce in 1814 commenced experiments, and in 1824 (if not earlier) actually produced proofs from photo-etched plates. His process was just to purify bitumen and then to coat a silver or pewter plate with it, exposing to light under an engraving or in the camera. The bitumen, where it became insoluble under the action of light, resisted the solvent action of oil of lavender which was afterwards applied, so that a resist was produced and the plate was afterwards etched. The only records of Niepce's early experiments are furnished by some correspondence between Niepce and Daguerre.

Eventually Niepce entered into partnership with Daguerre and endeavoured to form a company to work their new invention, but without success—capitalists looked upon it as much too risky a venture. Niepce's desire and object when the first glimpse of photography appeared was to find a substitute for engraving. Letters written by Isidore Niepce at that period tend to show that from Niepce we obtained the germ and idea of process engraving.

The first published results of the daguerreotype process proved that the nitric acid attacked the silver forming the dark part of the image, whilst it had no action on the mercury in the light part. After a few minutes' biting the plate was washed, inked up and proof pulled, but the results were very imperfect, and the plates did not stand printing owing to the softness of the silver.

In 1842 Poitevin endeavoured to prepare printing plates from daguerreotypes. Fizeau improved this process and obtained results resembling photogravures.

Fox Talbot's first process was patented in 1852. This process was called phototypy. Up to this time it may be said to have been the most important process of the day. It is curious to note that Talbot, when copying what we now term a half-tone subject, used what he called a photographic veil over the plate; this veil was composed of two folds of thin black gauze. The method was imperfect, but it only shows that at this time Talbot was endeavouring to make half-tone blocks by means of breaking up the tones by the aid of a gauze or screen. In fact, he actually suggested the use of those glass plates, ruled with fine lines or covered with opaque dots, which are the basis of half-tone work. But in referring to this process it must be borne in mind that it was really a species of photogravure, and was not a process for producing type blocks for printing in magazines or newspapers—his plates had to be printed in a copper-plate press. The plates he made were, however, the first of their kind, and very excellent. Talbot may well claim to be the English inventor of photography.

Carl Klic, of Vienna, is said to have improved upon Talbot's methods considerably. The idea of a lined screen was followed by Berchtold in France, and C. J. Burnett in England, in 1857 or 1858. In 1861 Baron F. W. von Egloffstein experimented with ruled screens in Philadelphia, and in 1865 E. and J. Bullock patented and worked for fifteen years a process in which the grain was produced by a line netting of cross lines.

The earliest attempts in the direction of automatic engraving were based on the principle of biting away the metal with acids. The great difficulty encountered was to insure that the action of the acids should be exercised only in the direction required. Nitric acid had a habit of etching away the delicate parts, and even at the present day it is not unusual for this to occur. Many experiments were made, but for a long time the results were failures. It was left to a Frenchman, M. Gillot, to perfect the etching of the line block. I have just received an interesting letter from M. Gillot, jun, who states:—

"My father, who was a lithographic artist, took over a small lithographic business whose specialty was printing small labels. The lithographic method not being quick enough, it struck him to bite or etch the stone deeper to enable him to print typographically instead of lithographically. Whilst experimenting on this the idea occurred to him to use metal; he therefore experimented, and successfully succeeded in etching on zinc. This took place about 1848, but the printers were very much against the new method. After six years' patient work he submitted his invention to the Society for the Encouragement of National Industries. He called his process 'Gravure paneconographique,' a name still in use at Messrs. Gillot's at the present day."

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* A paper read by Mr. Carl Hentschel before the Applied Art Section of the Society of Arts.

Gillot encountered, as is usual, an amount of professional opposition; the French engravers were averse to helping the new method by any encouragement, dreading that the new process would supersede their own art. Publishers also spoke disparagingly of it as "the process," and in consequence of the disrespect with which the term was then associated M. Gillot adopted the title of Gillotage for his work. It was M. Phillipon, of the *Journal Amusant*, who came first to his assistance, and, foreseeing the value of the process, gave up all wood engraving and used Gillot blocks instead. M. Gillot was greatly assisted by his wife, who was a good artist herself. M. Gillot died in 1872, after having invented and perfected one of the most important inventions of the century, and founding the first and most important process establishment in Paris.

The earliest public recognition of its value was at the Exhibition of 1855, when the distinction of honourable mention was conferred upon the process.

My father had for many years been experimenting with photography on zinc, but it was not until after many years of labour that he succeeded in perfecting his process sufficiently to practically work it, and then only by adopting the Gillot method of etching. It may be interesting to mention that the first etcher who came from Gillot of Paris to introduce the method into England in 1876 is still working for me.

It is curious to note that, although forty years have passed since Gillot invented line zinc etching, the method has not much improved His method was perfect, and the results obtained then were equal to those of the present day. (I am referring to pen and ink or line work.)

It must not be forgotten that all the early plates were either drawn on zinc or on transfer paper or lithographic stones, and then transferred to zinc and etched. It was not till later that the method of photographing direct on to the zinc was adopted. It was my father who at that time was endeavouring to photograph direct on to zinc, and his process, by those who were capable of judging, was considered the finest ever introduced. Mr. Comyns Carr, in a lecture before this Society, referred to it specially and described it; but a certain amount of patience was required to get any decent results. In the early days I had to do all the practical work, to take the negative, print it and prepare it ready for etching. The difficulty was in obtaining the result on zinc—the only method then in use was either by albumen or bitumen, neither of them perfect if you desired to obtain delicate results. Another method employed previously to this was to prepare albumenised sensitised paper, to print the same and ink it up, and then to treat the print as a transfer by transferring it on to the zinc in the same manner as a lithograph. My father's process was in the form of a sensitised carbon paper, which was printed and then squeegeed without pressure on the zinc, thereby retaining all the fine lines, and not smashing them as was the case with the earlier transfer method After the carbon was developed the plate had to be carefully etched and then rolled up It was here that the difficulty arose. A certain knack was required to ink the plate, owing to the plate "tinting," *i.e.* the white parts inking up as well as the picture, and to such an extent that one could not remove the blemish without damaging the work. I found a solution (nut gall) which helped me greatly in getting rid of this tint, but although I tried to teach a good many I only came across one man who had the knack of doing it. This process was worked for some years, until with the advent of improvements and the increased output of blocks, I dropped it.

When Klic was last in England, about the year 1883, I assisted him in experimenting in the reproduction of half tone engraving. Meisenbach was just then coming to the front, and Klic had some scheme of making cross-lined screens. His idea was to make these screens photographically by photographing a single lined negative both ways, and reflecting the light through the lined negative in such a manner as to secure a sort of halation or softness between the points that the lines cross. Dry plates were used at that time, and instead of using daylight or electric light, a very strong bull's-eye lantern and a rapid dry plate were used. Although a lot of experiments were made nothing came of them. I am afraid I had not much faith in the process, and was not really enthusiastic over it. My father and myself experimented on making different screens. We had one idea of making a sort of chessboard screen consisting of black and white squares, and for this purpose we got an artist to make the board, and for six months he worked on this wretched inartistic mechanical work, nearly blinding himself, as the board had to be reduced so very much; the results were too small to be practically useful.

At that time wire gauze was used, also lace and silk. Some fine results were obtainable through the wire gauze, but the scientific principle and method of breaking up the dots had not been discovered. It was Mr. Ives who first went thoroughly into the matter, and whose researches and experiments have proved of great value to the trade. There have been a good many processes which would have proved useful had they been workable commercially, but when an inventor brings you a new process and shows you the result he does not tell you how long he has been preparing the specimens and how long it has taken him to perfect the one he shows you—all he knows is that theoretically it can be done in, say, two days, not telling you that it took him perhaps a month to obtain the result he is showing you. My father had an idea of making half-tone reproductions without the aid of screen or grain, and certainly he did succeed in getting examples on stone which were simply marvellous. Had the process been workable it would have revolutionised lithography, for he obtained delicate half tones from the stone. His method was briefly as follows:—He prepared a carbon paper upon which the picture was exposed under a negative; the paper was transferred to the stone, not with pressure, but simply by squeegeeing it. After the print was soaked the paper was taken off, the carbon was left on the stone and developed; we then had a beautiful photographic print on the stone. This was dried and then slightly etched with nitric acid, after which the carbon picture was washed off and the stone was treated in the ordinary way--that is, inked up—and the effect of the process was that all the half tones were retained. Messrs. Maclure & Macdonald had one of these stones, and tried it on their machine, and had no difficulty in printing from it, as the more they printed the better the picture became, because owing to the porous nature of the stone and the action of the carbon tissue, the picture had sunk right into it. But it was impossible to work this process; it was the most erratic process ever invented. The specimens I referred to took about twelve months to prepare—that is to say, about forty had to be made before we got a good one. But it was the first and only process ever invented that enabled a pure half-tone to be printed direct from the stone. The process was a secret one, and my father and I were the only ones ever to work it. There have been various processes, such as heliotype, phototype, collotype, &c., but all these were printed from gelatine films or moulds.

There was a very curious process at this period which I saw worked, and that was to get a reproduction either enlarged or reduced from existing pictures on stone or wood. You had a large piece of smooth indiarubber enclosed in a frame, which you contracted or stretched, according to whether you wanted it reduced or enlarged, and some very good results were shown. The process was amusing, inasmuch as you could distort a picture to any extent you liked, and with portraits you could get the most comical effects. Those comical indiarubber faces that children play with or one of these distorted mirrors will give you some idea of its comicality.

Pretsch blocks were really the first half-tone grain blocks. Pretsch discovered that the bichromated gelatine film possessed the property of reticulating itself with minute vermicular markings, when it is wetted after the usual exposure to light. This is specially noted when the film has been rapidly dried and when it contains a portion of chloride of calcium; the reticulation varies according to the heat at which it is dried, according to the exposure, and to the light and shadows of the picture. The one fault with this process is that the grain may become unduly prominent and so destroy all fine detail.

The Pretsch process was developed by Swan, who obtained the gelatine relief with carbon tissue, thus avoiding irregular swelling and granulation of the gelatine, and afterwards by Geymet, Roussillon and Dawson among others. General Waterhouse in 1880 used fine sand sifted in the gelatine relief on a copper plate while it is still soft

Messrs. Sprague's process must be mentioned as being based on the reticulated gelatine grain principle. They have used this process very successfully in connection with supplements for various papers and insets, most of their reproductions being printed from stone, the type-high blocks not being so successful as those results from stone. They call their method the ink-photo process.

Although several attempts have been made to introduce grained half-tone blocks, the result has not been successful, because they lack depth and have not the softness of the ordinary half-tone block. The finest results, so far, have been done in France by Goupil, but then they have had the advantage of exceptional printing.

Amongst other processes was one called the silver line process. It is a very pretty process, and a Frenchman I knew in the eighties induced several publishers, to their loss, to work it. One well-known publisher in those days, who dabbled in process, always considered his downfall due to the money he had sunk in endeavouring to bring this process to a successful commercial issue. The silver line process was to coat a zinc plate with bitumen, expose it under a positive, so that after developing, the plate was etched slightly and a metallic alloy capable of resisting the acid deposited on the lines. The process, owing to its pretty appearance, charmed a good many, but it also proved costly.

Another inventor tried to make use of glass as a substitute for zinc in the preparation of surface blocks by the etching method. Hydrofluoric acid instead of nitric acid was used. It was proposed to use it for large pictures for illustrated newspapers, and to some extent this was carried out in a paper published in Australia, but I cannot find any facts relating to this. I only mention it as a curious experiment. In endeavouring to give a brief report of process engraving I find the records on process are really very meagre. This is owing to the fact that an endeavour was made to keep most of the processes secret. Although a good many processes have since come into existence the differences between many of them are very slight, many being merely variations on some small point.

Another process in use in the early days was the gelatine process. This consists in printing the picture on a sensitised film of gelatine; if this gelatine is soaked in water the parts representing the whites swell, and the darks, really the picture, remain as they were, as the light has rendered them insensible to water; from this swelled gelatine mould a cast is made and electrotyped. The process is used only, I believe, by one firm, Messrs Dawson. Some of the results obtained are very good, but I am afraid nowadays the process is looked upon as old-fashioned.

Messrs. Dawson also worked another process by which some very excellent results have been made, and it has held the field for a considerable time for special classes of book-work, but of course for rapid periodical work it was not suitable. They called this process typographic etching. This process differs from all others. It has less of a mechanical nature than the modern process, and it depends upon the skill of the draughtsman who works it. The design is drawn with an etching-needle on a metal plate covered with wax; the metal is therefore bared at the lines, which are separated by ridges and spaces of wax. For outline work the process is admirable, elaborate drawings can also be made, and they are best made by the artist himself who is familiar with the etching-needle, but artists are slow to adopt any little training which would have made them proficient in sketching on the prepared surface. In referring to this excellent process one is reminded of the process called the Glyphographic process invented by Edward Palmer about 1842. There is no special interest attached to Palmer's process beyond an earnest and unsuccessful attempt to supersede wood engraving. The process never came into practical use It ruined its inventor, who gave up a good business as an optician and found himself in the bankruptcy court, not an unusual proceeding for inventors who have tried to bring process engraving to a successful issue. Your true inventor seems essentially drawn towards the bankruptcy court, and has hardly ever derived any benefits from his inventions; it has generally been some smart business man who has taken up an old idea, improved it and gained the credit and kudos which really never belonged to him.

Amongst the processes which were a good deal advertised, but came to nothing, was the Sutton process. A syndicate was formed to run this process, and a demonstration, including a luncheon, took place for the benefit of the press, who, not having a practical knowledge of process work in general, gave glowing accounts of it It was demonstrated that blocks could be made in less than half an hour, but what was obtained was only a gelatine dry plate cast from which an electro had to be made The results were by no means good, and the syndicate, after working it for some time, disappeared quietly in the usual manner of unpractical syndicates

Amongst numerous processes the Swan process is worthy of mention, but it does not appear to have been developed or used commercially.

Mr. Woodbury also attempted to make type blocks from his reliefs. His process—Woodburytype—although in much demand at one time, was only adapted for supplements and insets, as the prints were from intaglio gelatine moulds and not adapted for type work. Mr. Woodbury made his block by breaking up a transfer taken from his mould and transferring t on to zinc to be etched.

Mr. Ives in 1878 patented a process; his plan was to take n inked Woodbury relief and to press it against grained or embossed paper; the picture on the grain paper was then copied in the camera or transferred to zinc direct. In another mprovement of his he took a cast in plaster from the Woodburytype; on the plaster cast he printed lines or stipples by means of an indiarubber stamp. By flowing the plaster over with collodion he was able to transfer the ink to the resetting lm, and after slipping the film off he made a print from it on he plate.

Some thirty-four years ago the Graphotype process was in se for a short time, and although to a certain degree ingenious nd original, it was not found sufficiently practical. Briefly, the process was as follows:—The drawing was made in an ink consisting of glue and lampblack upon a block prepared by compressing precipitated chalk into a solid cake. When the drawing was completed the whites between the lines were brushed out, the block was treated with silicate of potash to harden it, and electrotyped.

In commenting upon what we may call the chalk block period, my father, August Hentschel, worked a similar process, with the difference that he used photography in connection with it. His was a mechanical process—the drawing, which had to be in line, was photographed on to cardboard, which was coated with a thick solution of caseine, plaster and other ingredients sensitised with bichromate; this was placed between a roller to take off any unevenness, and then exposed under the negative. It was then developed, and the parts unexposed were washed away, leaving the picture in relief; this was dried, an electrotype was taken, and the large white spaces were deepened by the aid of an engraver. Now this process was a pure mechanical process, as it gave an absolute facsimile result of the artist's own drawing, which the other chalk process did not give, and some very good results were obtained—but at that period publishers were not so sympathetic in adopting any new process.

It is interesting to look back upon those early days and compare our present methods. I can well remember a time when if a block was turned out in a week it was thought something wonderful; afterwards when I succeeded in turning out a block in twenty-four hours it was specially noticed in the press, and when a double-page pencil drawing by Melton Prior for the *Illustrated London News* was reproduced in nine hours the fact was regarded as marvellous. Nowadays half-tone blocks are wanted in two to four hours and line blocks in two hours. It is nothing unusual to have to deliver a double-page block from a wash drawing in six hours, and in some cases we are expected to make the blocks in less time than that. There is no doubt we are arriving at a time when it will be almost possible to supply blocks whilst you wait. From an artistic point of view this is to be deplored, but we live in an age of nervous rush, and one must go the pace or be left behind; it is the pace that kills the workman as well as his art, for certainly no one can put his best work into a block when only minutes are allowed for a difficult process requiring hours. I can call to mind in 1879 having some very difficult old engravings to reproduce; they were for a book on Marie Antoinette by Lord Ronald Gower, and it took the best part of a year to do what now could be done in a week. It was not a question of getting it right there and then: oh no, it was a case of doing it over and over again. You can imagine the monotony of redoing the same picture until it was perfect. A portrait of Cetewayo which I was doing then is so vividly impressed upon my memory that to this day I seem to see every line in it. I had to do that wretched portrait about fifty times before I could get it right. It is no wonder then that the company which worked this process in its early days came to an untimely end. (The title of the company, by the way, was the Direct Photo Litho and Metallo Gravo Printing Company, Limited.) Another thing to be considered was that in those days every one was prejudiced against process or zincography, as it was then called; wood engravers were up in arms against it, printers said it could not be printed (printers always do say that) I have found that printers are really the most conservative of conservatives, and will not touch anything new unless forced to do so. Zincos were then not so deeply etched, and required more delicate handling than woodcuts, and when Meisenbach blocks came into existence the printers had, much against the grain, to change their method of printing. Soft backing and heavy blankets and rough paper would not do, and the early results of Meisenbach blocks were really heartrending; but luckily the proprietors of the *Graphic*, the *Illustrated London News* and *Lady's Pictorial* saw the value of this process and assisted in improving the printing, and printing has steadily gone on improving

Being on the subject of printing, I may just refer to the process blocks made for the *Daily Chronicle* some five years ago It was due to Mr. J. Pennell's energy and enthusiasm that the *Daily Chronicle* went in so largely and extensively for line drawings, and all by the best artists of the day. The results were exceptionally good, and a good many wondered how it was that they printed so well, keeping all the delicate lines and quality. The fact was that they had adopted a method I suggested, namely, that of using original blocks for every one of their machines and bending and fixing them on the cylinder. There was a little prejudice in adopting this method at first, but when it was tried the results were perfect, and have never been equalled Unfortunately, time not always permitting this for their occasional illustrations now, they stereotyped them and the result is nothing like so good.

One always hears that they hurry along things in America. Well, from my own experience, blocks have to be produced in much shorter time here than in America; for instance, as a record of quickness, I may mention that over 30 square feet of line blocks had to be, and were delivered within nine hours, and on that same day my firm had to turn out in all 70 square feet of blocks in twenty-four hours, and, in spite of this rush, the blocks were all perfect; the blocks included those large page illustrations that appeared in the *Daily Chronicle*. These page illustrations were by the way the largest zinc blocks that had ever appeared in any newspaper. To realise this quantity of work you must consider how many wood engravers would have been required, and how long it would have taken them to engrave 70 square feet of blocks.

Meisenbach must be credited as the inventor and pioneer of the half-tone process. He patented this process in 1882. The effect was that wash drawings, oil-paintings, water-colour drawings, in fact anything that could be photographed could be reproduced direct without having resource to re-drawing it in pen and ink or engraving on wood. It is this process which has killed wood engraving all over the world. The important feature of the process was the use of a finely ruled glass screen, which was interposed in the camera between the original and the negative, the effect being to break up all the gradations and half tones into different sized blacks and cross lines In the early days Meisenbach used single lines for these, and by shifting the same in the camera obtained these dots and cross lines.

Mr. Ives really improved upon the Meisenbach method, for whereas Meisenbach used a single-line screen, and withdrew the line-screen during exposure, and replaced it instantly in a transverse position, producing thereby a cross-line effect, Ives obviated this turning operation by putting two of his machine-ruled screens together, face to face, and sealing them. The diamond-ruled screen of to-day is practically the same as Ives's early invention, although Max Levy improved upon it by producing it on his improved engraving machine.

Many other experimenters stumbled over similar experimental results, but it was not until Dr. Eder wrote his treatise on the "Formation of the Dot in Half Tone," and was followed by contributions from Count Turatti, E Deville, Max Levy, Ives and others, that the theory and principle of what Ives called the optical V were made generally public

The enamel process, which was discovered by an American named Purbeck, greatly assisted in improving process work.

Amongst the processes for the purpose of converting photographs into half-tone blocks may be mentioned the Luxotype process of Brown, Barnes and Bell, in which no screen was used, but the part to be copied was embossed by the aid of a wire gauze and plate by rolling or pressure, and this embossed print was strongly side lighted. The results were not satisfactory—whether the process was ever worked commercially with success I don't know.

Another method of making a grained negative without a screen was suggested by Messrs Krantz & Zeisler. An image of the subject was projected lantern fashion on a white screen, ruled with black lines, and the composite subject photographed. In using a gauze or ordinary line-screen the tendency was to get a monotonous flatness, and the effect had to be obtained by what is called fine etching—a method by which the original artistic drawing was often etched away beyond recognition, for since the detail of the original had to be put in everything depended upon the artistic skill of the etcher. It was owing to the amount of fine etching required and the flat result obtained that process blocks in the early days got such a bad reputation from artists.

Hand Engraving—This is a point upon which a good many people differ, but there is no doubt that a good engraver may considerably improve a block. Unfortunately, however, publishers want their blocks done at so much a square inch, and will not pay for extra work. If only editors and publishers would realise that it would pay to spend a little more money on their engravings I do not say anything about weekly periodicals because there it is a question of time, but it is gratifying to see that the *Graphic*, whenever possible, spends a certain time in hand engraving the blocks. Wood engravers are now turning their attention to process work, and with their artistic skill ought to be able to improve and work up process blocks. To what extent this can be done one has only to scan the American periodicals. But if a good wood engraver has not had the proper training for engraving on a process block, then he had better leave it alone. To engrave a process block well requires proper training. The point to consider is whether the older wood engravers will take the trouble to learn it, or whether a new school of engravers on process blocks will arise.

The *Century Magazine* shows the finest examples of this class of work, and what I am glad to see is that they acknowledge the wood engraver's name under each block.

It was about 1883—the advent of the Meisenbach process—that things got a little forwarder. Meisenbach fairly revolutionised process engraving. It was the advent of the American screen and the beautiful results obtained in America that caused a rush of process firms to be started in England. The firm to show the lead in using the Levy screens and producing the finest work at the time was Andre & Sleigh, and certainly for some years they held a good lead, but with the screens and improvements from America becoming universally known good work was done by several firms. Meisenbachs gave up their old screen and took up the Levy screen as well, so that after a time it became a survival of the fittest, and it is curious to note that in spite of competition the old firms, such as Meisenbach, Swain and Hentschel, all established since 1887, have held the lead for turning out good work.

Amongst firms who must be mentioned as doing fine work are the Swan Engraving Company, Ward & Co. (who both had the advantage of Mr. Ives's personal experience), the Art Reproduction Company, whose workmen first came from Angerer & Goshl, the well-known Vienna firm. It may be interesting at this point to give you some idea of the progress of process and the decline of wood engraving as shown in the London directory:—

	1876.	1879.	1884.	1887.	1895.	1900.
Wood engraving .	—	130	162	158	131	80
Process . . .	1	2	6	14	53	56

The first process firm in England was Leitch & Co. and the firm was started by the proprietors of Kelly's Directories; the business was eventually taken over by the late John Swain, the wood engraver, who foresaw the future of process The second firm was Cattell & Co, which consisted of some of the original employés of Leitch & Co.

Out of the fourteen firms in existence in 1887 there are only five at the present moment existing, and out of the fifty-three firms who were doing business in 1895 twenty-two have gracefully retired. It is interesting to view the figures and notice the increase of process engraving since 1879 to 1900, but although there was a great rush between 1887-95 to enter and swell the ranks of process men, the last few years has shown a steady decline. Competition and cutting prices has been the ruin of those firms who rushed into business on insufficient capital and with little experience.

Wood engraving has not been able to compete against the rapid strides process has made. Mechanical processes which have been the outcome of photography have educated the public eye to a more delicate, more minute style of work; the public taste has been influenced by photography, the simple outlines which were once accepted as satisfactory now no longer suffice, and it is perhaps unfortunate from an artistic point of view that the public have taken so much to photographs to the detriment of the artist, for although photography is excellent it could be made so much more artistic in conjunction with an artist using his artistic feeling to embellish and improve the picture.

The precise style of illustration that may be fashionable at any time will be partly a matter of taste, partly dependent on the means at the command of the artist and the process in vogue. At the present day the artist has not to restrict himself to the extent he did in the early days as to how he should draw for process. My own feeling in the matter is that artists should be allowed to draw and use what material they like; it is the business of the engraver to invent a process which will reproduce the artistic effect of the artist. The rapid strides that process, and especially half-tone process, has made enables us to reproduce any drawing no matter how drawn, whether in wash, pencil or any other material. When process first came into use every artist had to draw only in line or grain, no half-tint or tints were permissible, and he had to use black ink or brown ink and white paper. There is no doubt the restrictions placed upon artists by the photo-engraver seriously hampered the artist and helped to render his drawing mechanical Very few artists seem to grasp the idea of drawing with that crispness necessary for a line process block How often have I been handed a drawing on yellow paper drawn in blue ink, and have been expected to obtain a satisfactory result, and how often the lines were drawn so faintly that it was necessary to force them up to make any block. What was the result? All the feeling was gone, and the process engraver was condemned as usual with, "What can you expect from a process block?"

But after all that one may say against process—and a lot of hard things have been said about it, and especially by artists, who have forgotten that the very advent of process has been the means of creating more work—let us only consider for one moment whether so many illustrated periodicals, books or newspapers could be published now had it not been for the aid process has given to the publishers in enabling them to place before the public what was an impossibility in the days of wood engraving. Process is not perfect yet by any means, but its progress is by no means at an end, and one conspicuous advantage it has over wood engraving is that the actual work of the artist is more faithfully reproduced than by the wood engraver. You may retort, "Yes, but not so artistically, because your wood engraver was an artist, and your process engraver is a machine" Suppose we grant this; but the process engraver, although a machine, endeavours to throw all the artistic skill possible into his work. If, owing to the rush of the present day, he cannot do this to every block, he should not be blamed for that, but the publisher, and especially the public, should be blamed, for all they seem to want is cheapness—cheapness and rapidity. If you offer a publisher better work, he often replies, "Oh, I know the work is much better, but the other is good enough for the public."

The impetus process has given to illustrated journalism one can only realise after examining the illustrated periodicals for the last seventeen years; the progress has simply been marvellous, and the subject is so large and so interesting a one that it would take hours to enumerate or even give the briefest history of it. For instance, about 1883 there were only four 6*d.* weekly papers, using about eighty blocks, nearly all wood engravings; now there are about fourteen 6*d.* papers, using some 1,000 process blocks every week

Process work has been instrumental in assisting towards establishing daily illustrated newspapers, and it was left to the proprietors of the *Graphic* to found the first illustrated daily paper, which became a success. It is interesting to note how n the early numbers there were not so many topical illustrations. Mr. Carmichael Thomas, in a paper to this Society, described the production of the *Graphic* in a most interesting manner. In the early numbers no half-tone blocks were used. It is only lately that, owing to the special methods that have been adopted in making half-tone blocks suitable for stereotyping, the *Daily Graphic* has used them so much.

It seems like retribution that, go-ahead as the Americans are, it was only recently that an American daily paper asked he proprietors of the *Daily Graphic* for information as to how hey got their half-tone portraits so successfully made and stereotyped.

There is no doubt as process is improving so will manufacturers have to improve their printing machinery. With the dvance and co-operation of both it will be able in the near uture to publish a daily illustrated paper equal in get-up and rinting to the *Graphic.*

Both the *Illustrated London News* and *Graphic* were very hary for a long time in using process blocks; occasional locks were used in the *Graphic* The first line block, which vas a map, was printed in 1876, and the first half tone by Meisenbach was in 1884. The *Illustrated London News* used n occasional map about 1880, and in 1886 a double page ppeared, partly consisting of wood engraving and partly of rocess work which had been drawn on chalk grain paper The same year some very good specimens of Gillot's blocks ppeared, and in 1887 a half-tone block (very fine grain) by Goupil appeared—it was one of the Paris Salon pictures. In 888 Meisenbach blocks obtained a footing, and from this year nward half-tone blocks and line blocks steadily but surely crept n and wood engraving had to give way. It is noticeable that n 1888 the *Illustrated London News* only contained 26 pictures, nade up as follows:—17 wood engravings, 7 line blocks and 2 alf tones, whereas one of the present numbers contains more nat 50 process blocks and no wood engraving.

The *Sporting and Dramatic* was the first sixpenny weekly o go in boldly for line zincos, and the *Sketch* may be reckoned s the first sixpenny periodical to be illustrated entirely with rocess. In the first number in 1893 there appeared 49 line, 6 half tones and one wood engraving

In comparing a number of the *Illustrated London News* in 884 with a number of *The Sphere*, 1900, I find that the average umber of illustrations in the *Illustrated London News* was bout 20; in one of the last numbers of *The Sphere* 90 illustra- ons appear, all process.

A process which will have a future before it is the three-colour process The process is a most fascinating one, and ne upon which I have worked for some years. My process, hich I call colortype, differs in many respects from all other rocesses. The process is to reproduce by the aid of the three rimary colours any coloured originals. The blocks are made red, yellow and blue, and are printed, the colours being perimposed one upon the other, thereby obtaining all the raduations and blending of the original picture. The theory d science of this process were so minutely and interestingly scribed by Mr Sanger Shepherd to this Society some weeks o that I need not dwell upon them.

Printing.—This is always a sore point; the process graver always get blamed for his block if the result is bad. Oh! it's the block, the printing is all right." Although ngland has made rapid strides in its printing it is still far hind America, and why this should be I cannot understand. rinters will not understand that a printing-room should be pt as clean and as evenly heated as a studio—but what do e find? The machine-room is generally somewhere in the sement, but that would not matter if the surroundings were pt as they should be, and an even temperature kept up. Now, even and warm temperature is one of the main secrets of od printing, and yet how little attention is given to it. The ct is the whole question of blocks, ink, printing and paper not sufficiently studied together; one man orders the ink, e the paper, one sees to the printing and another to the blocks, but there is rarely a capable practical person who wil see that the co-operation is secured which is necessary toward getting the best result. It is a case of each one for his own department instead of working together. England has good artists, can supply blocks superior to any abroad, and England should be in a position to compare favourably with America. Let the printers give their attention to this, and the day may come when America may learn something from England. Whatever credit the English illustrated press may claim for the progress it has made, I think process has had a good deal to do in furthering this success.

Having, I am afraid, taxed your patience to a considerable extent, I will conclude my paper with some lantern slides illustrating different specimens of engraving, also showing how process blocks are manufactured and the different departments a block has to pass through. I am enabled, by the kindness of Mr. Sanger Shepherd, to illustrate to you the principle of the three-colour process exhibiting the effect of the three-colour blocks.

ARCHITECTURAL ACOUSTICS.*

THE following investigation was not undertaken at first by choice, but devolved on the writer in 1895 through instructions from the corporation of Harvard University to propose changes for remedying the acoustical difficulties in the lecture room of the Fogg Art Museum, a building that had just been completed. About two years were spent in experimenting on this room, and permanent changes were then made. Almost immediately afterward it became certain that a new Boston music hall would be erected, and the question arising in the consideration of its plans forced a not unwelcome continuance of the general investigation.

No one can appreciate the condition of architectural acoustics—the science of sound as applied to buildings—who has not with a pressing case in hand sought through the scattered literature for some safe guidance Responsibility in a large and irretrievable expenditure of money compels a careful consideration, and emphasises the meagreness and inconsistency of the current suggestions. Thus the most definite and often repeated statements are such as the following, that the dimensions of a room should be in the ratio 2 : 3 : 5, or according to some writers, 1 : 1 : 2, and others 2 : 3 : 4; it is probable that the basis of these suggestions is the ratios of the harmonic intervals in music, but the connection is untraced and remote. Moreover, such advice is rather difficult to apply. Should one measure the length to the back or to the front of the galleries, to the back or front of the stage recess? Few rooms have a flat roof; where should the height be measured. Another writer, who had seen the Mormon Temple, recommended that all auditoriums be elliptical Sanders Theatre is by far the best auditorium in Cambridge and is semicircular in general shape, but with a recess that makes it almost anything; and, on the other hand, the lecture-room in the Fogg Art Museum is also semicircular, indeed was modelled after Sanders Theatre, and it was the worst. But Sanders Theatre is in wood and the Fogg lecture-room is plaster on tile; one seizes on this only to be immediately reminded that Sayles Hall in Providence is largely lined with wood and is bad. Curiously enough, each suggestion is advanced as if it alone were sufficient. As examples of remedies may be cited the placing of vases about the room for the sake of resonance, wrongly supposed to have been the object of the vases in Greek theatres; the stretching of wires, even now a frequent, though useless device.

The problem is necessarily complex, and each room presents many conditions, each of which contributes to the result in a greater or less degree according to circumstances. To take justly into account these varied conditions the solution of the problem should be quantitative, not merely qualitative, and to reach its highest usefulness it should be such that its application can precede, not follow, the construction of the buildings

In order that hearing may be good in any auditorium it is necessary that the sound should be sufficiently loud; that the simultaneous components of a complex sound should maintain their proper relative intensities, and that the successive sounds in rapidly moving articulation, either of speech or music, should be clear and distinct, free from each other and from extraneous noises These three are the necessary, as they are the entirely sufficient conditions for good hearing The architectural problem is correspondingly threefold, and in this introductory paper an attempt will be made to sketch and define briefly the subject on this basis of classification. Within the three fields thus defined is comprised without exception the whole of architectural acoustics.

1. *Loudness.*—Starting with the simplest conceivable auditorium—a level and open plain, with the ground bare

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* A paper by Professor Wallace C. Sabine, Harvard University.

and hard, a single person for an audience—it is clear that the sound will spread in a hemispherical wave, diminishing in intensity as it increases in size proportionally. If instead of being bare the ground is occupied by a large audience, the sound diminishes in intensity even more rapidly, being now absorbed. The upper part of the sound wave escapes unaffected, but the lower edge—the only part that is of service to an audience on a plain—is rapidly lost. The first and most obvious improvement is to raise the speaker above the level of the audience; the second is to raise the seats at the rear, and the third is to place a wall behind the speaker. The result is most attractively illustrated in the Greek theatre. These changes being made, still all the sound rising at any considerable angle is lost through the opening above, and only part of the speaker's efforts serve the audience. When to this auditorium the roof is added the average intensity of sound throughout the room is greatly increased, especially that of sustained tones, and the intensity of sound at the front and the rear is more nearly equalised. If, in addition, galleries be constructed in order to elevate and bring the distant part of the audience nearer to the front, we have the general form of the modern auditorium The problem of calculating the loudness at different parts of such an auditorium is, obviously, complex, but it is perfectly determinate, and as soon as the reflecting and absorbing power of the audience and that of the various wall surfaces is known it can be solved approximately. Under this head will be considered the effect of sounding-boards, the relative merits of different materials used as reflectors, the refraction of sound and the influence of the variable temperature of the air through the heating and ventilating of the room and similar subjects.

2. *Distortion of Complex Sounds: Interference and Resonance.*—In discussing the subject of loudness the direct and reflected sounds have been spoken of as if always reinforcing each other when they come together. A moment's consideration of the nature of sound will show that, as a matter of fact, it is entirely possible for them to oppose each other. The sounding body in its forward motion sends off a wave of condensation, which is immediately followed through the air by a wave of rarefaction produced by the vibrating body as it moves back. These two waves of opposite character taken together constitute a sound wave. The source continuing to vibrate, these waves follow each other in a train. Bearing in mind this alternating character of sound, it is evident that, should the sound travelling by different paths—by reflection from different walls—come together again, the paths being equal in length, condensation will arrive at the same time as condensation and reinforce it, and rarefaction will similarly reinforce rarefaction But should one path be a little shorter than the other rarefaction by one and condensation by the other may arrive at the same time, and at this point there will be comparative silence The whole room may be mapped out into regions in which the sound is loud and regions in which it is feeble. When there are many reflecting surfaces the interference is much more complex. When the note changes in pitch the interference system is entirely altered in character.

A single incident will serve to illustrate this point. There is a room in the Jefferson Physical Laboratory, known as the Constant Temperature Room, that has been of the utmost service throughout these experiments It is in the centre of one wing of the building, is entirely underground, even below the level of the basement of the building, has separate foundations and double walls, each wall being very thick and of brick in cement. It was originally designed for investigations in heat requiring constant temperature, and its peculiar location and construction were for this purpose. As it was not so in use, however, it was turned over to these experiments in sound, and a room more suitable could not be desired. From its location and construction it is extremely quiet Without windows, its walls, floor and ceiling—all of solid masonry—are smooth and unbroken. The single door to the room is plain, and flush with the wall. The dimensions of the room are, on the floor, 4·27 by 6·10 metres; its height at the walls is 2·54 metres, but the ceiling is slightly arched, giving a height at the centre of 3·17 metres. This room is here described at length because it will be frequently referred to, particularly in this matter of interference of sound. While working in this room with a treble *c* gemshorn organ pipe blown by a steady wind pressure, it was observed that the pitch of the pipe apparently changed an octave when the observer straightened up in his chair from a position in which he was leaning forward. The explanation is this. The organ pipe did not give a single pure note, but gave a fundamental treble *c*, accompanied by several overtones, of which the strongest was in this case the octave above. Each note in the whole complex sound had its own interference system, which, as long as the sound remained constant, remained fixed in position. It so happened that at these two points the region of silence for one note coincided with the region of reinforcement in the other, and vice versa Thus the observer in one position heard the fundamental note, and in the other the first overtone. The change was exceedingly striking, and as the notes remained constant the experiment could be tried again and again. With a little search it was possible to find other points in the room at which the same phenomenon appeared, but generally in less perfection. The distortion of the relative intensities of the components of a chord that may thus be produced is evident. Practically almost every sound of the voice in speech and, for that matter, in song, and of instrumental music, even single-part music so called, is more or less complex, and therefore subject to this distortion. It will be necessary later to show under what circumstances this phenomenon is a formidable danger, and how it may be guarded against, and under what circumstances it is negligible. It is evident from the above occurrence that it may be a most serious matter, for in this room two persons side by side can talk together with but little comfort, most of the difficulty being caused by the interference of sound.

There is another phenomenon, in its occurrence allied to interference, but in nature distinct—the phenomenon of resonance. Both, however, occasion the same evil—the distortion of that nice adjustment of the relative intensities of the components of the complex sound that constitutes speech and music. The phenomenon of interference just discussed merely alters the distribution of sound in the room, causing the intensity of any one pure sustained note to be above or below the average intensity at near points. Resonance, on the other hand, alters the total amount of sound in the whole room, and always increases it. This phenomenon is noticeable at times in using the voice in a small room, or even in particular locations in a large room. Perhaps its occurrence is most easily observed in setting up a large church organ, where the pipes must be readjusted for the particular room in which the organ is to stand, no matter with how much care the organ may have been assembled and adjusted before leaving the factory The general phenomenon of resonance is of very wide occurrence, not merely in acoustics, but in more gross mechanics as well, as the vibration of a bridge to a properly timed tread, or the excessive rolling of a boat in certain seas. The principle is the same in all cases. The following conception is an easy one to grasp, and is closely analogous to acoustical resonance. If the palm of the hand be placed on the centre of the surface of water in a large basin or tank and quickly depressed and raised once it will cause a wave to spread, which reflected at the edge of the water will return, in part at least, to the hand. If, just as the wave reaches the hand, the hand repeat its motion with the same force it will reinforce the wave travelling over the water. Thus reinforced the wave goes out stronger than before and returns again. By continued repetition of the motion of the hand so timed as to reinforce the wave as it returns, the wave gets to be very strong. Instead of restraining the hand each time until the one wave travelling to and fro returns to it, one may so time the motion of the hand as to have several equal waves following each other over the water, and the hand each time reinforcing the wave that is passing. This, obviously, can be done by dividing the interval of time between the successive motions of the hand by any whole number whatever, and moving the hand with the frequency thus defined. The result will be a strong reinforcement of the waves. If, however, the motions of the hand be not so timed, it is obvious that the reinforcement will not be so perfect, and, in fact, it is possible to so time it as exactly to oppose the returning waves. The application of this reasoning to the phenomenon of sound, where the air takes the place of the water and the sounding body that of the hand, needs little additional explanation. Some notes of a complex sound are reinforced, some are not, and thus the quality is altered. This phenomenon enters in two forms into the architectural problem; there may be either resonance of the air in the room or resonance of the walls, and the two cases must receive separate discussion; their effects are totally different.

The word resonance has been used loosely as synonymous with reverberation, and even with echo, and is so given in some of the more voluminous but less exact popular dictionaries. In scientific literature the term has received a very definite and precise application to the phenomenon, wherever it may occur, of the growth of a vibratory motion of an elastic body under periodic forces timed to its natural rates of vibration. A word having this significance is necessary, and it is very desirable that the term should not, even popularly, by meaning many things cease to mean anything exactly.

3. *Confusion: Reverberation, Echo, Extraneous Sounds.*—Sound, being energy, once produced in a confined space will continue until it is either transmitted by the boundary walls, or is transformed into some other kind of energy, generally heat. This process of decay is called absorption. Thus in the lecture-room of Harvard University, in which and in behalf of which this investigation was begun, the rate of absorption was so small that a word spoken in an ordinary tone of voice was audible for 5½ seconds afterward. During this time even a very deliberate speaker would have uttered the twelve or fifteen succeeding syllables. Thus the successive enunciations

blended into a loud sound, through which and above which it was necessary to hear and distinguish the orderly progression of the speech. Across the room this could not be done; even near the speaker it could be done only with an effort wearisome in the extreme if long maintained. With an audience filling the room the conditions were not so bad, but still not tolerable. This may be regarded, if one so chooses, as a process of multiple reflection, from walls, from ceilings and from floor, first from one and then another, losing a little at each reflection until ultimately inaudible. This phenomenon will be called reverberation, including as a special case the echo. It must be observed, however, that in general, reverberation results in a mass of sound filling the whole room and incapable of analysis into its distinct reflections. It is thus more difficult to recognise and impossible to locate. The term echo will be reserved for that particular case in which a short, sharp sound is distinctly repeated by reflection, either once from a single surface, or several times from two or more surfaces. In the general case of reverberation we are concerned not merely with its intensity but with the interval of time elapsing between the initial sound and the moment it reaches the observer. In the room mentioned as the occasion of this investigation, no discrete echo was distinctly perceptible, and the case will serve excellently as an illustration of the more general type of reverberation. After preliminary groping, first in the literature and then with several optical devices for measuring the intensity of sound, both were abandoned, the latter for reasons that will be explained later. Instead, the rate of decay was measured by measuring what was inversely proportional to it—the duration of audibility of the reverberation, or, as it will be called here, the duration of audibility of the residual sound. These experiments may be explained to advantage even in this introductory paper, for they will give more clearly than would abstract discussion an idea of the nature of reverberation.

Broadly considered there are two, and only two, variables in a room—shape, including size, and materials, including furnishings. In designing an auditorium an architect can give consideration to both; in repair work for bad acoustical conditions it is generally impracticable to change the shape, and only variations in materials and furnishings are allowable. This was, therefore, the line of work in this case. It was evident that, other things being equal, the rate at which the reverberation would disappear was proportional to the rate at which the sound was absorbed. The first work, therefore, was to determine the relative absorbing power of various substances. With an organ pipe as a constant source of sound, and a suitable chronograph for recording, the duration of audibility of a sound after the source had ceased in this room when empty was found to be 5·62 seconds. All the cushions from the seats in Sanders Theatre were then brought over and stored in the lobby. On bringing into the lecture room a number of cushions having a total length of 8·2 metres, the duration of audibility fell to 5·33 seconds. On bringing in 17 metres the sound in the room after the organ pipe ceased was audible for but 4·94 seconds. Evidently the cushions were strong absorbents, and rapidly improving the room, at least to the extent of diminishing the reverberation. The result was interesting, and the process was continued. Little by little the cushions were brought into the room, and each time the duration of audibility was measured. When all the seats (436 in number) were covered, the sound was audible for 2·03 seconds. Then the aisles were covered and then the platform. Still there were more cushions—almost half as many more. These were brought into the room a few at a time as before, and draped on a scaffolding that had been erected around the room, the duration of the sound being recorded each time. Finally, when all the cushions from a theatre seating nearly 1,500 persons were placed in the room—covering the seats, the aisles, the platform, the rear wall to the ceiling—the duration of audibility of the residual sound was 1·14 seconds. This experiment, requiring of course several nights' work, having been completed, all the cushions were removed, and the room was in readiness for the test of other absorbents. It was evident that a standard of comparison had been established. Curtains of chenille 1·1 metre wide and 17 metres in total length were draped in the room. The duration of audibility was then 4·51 seconds. Turning to the data that had just been collected, it appeared that this amount of chenille was equivalent to 30 metres of Sanders Theatre cushions. Oriental rugs—Herez, Demirjik and Hindoostanee—were tested in a similar manner, as were also cretonne cloth, canvas and hair felt. Similar experiments but in a smaller room determined the absorbing power of a man and of a woman, always by determining the number of running metres of Sanders Theatre cushions that would produce the same effect. This process of comparing two absorbents by actually substituting one for the other is laborious, and it is given here only to show the first steps in the development of a method that will be expanded in the following papers.

In this lecture-room felt was finally placed permanently on particular walls, and the room was rendered not excellent but entirely serviceable, and it has been used for the past three years without serious complaint. It is not intended to discuss this particular case in the introductory paper, because such discussion would be premature and logically incomplete. It was mentioned here merely to illustrate concretely the subject of reverberation, and its dependence on absorption. It would be a mistake to suppose that an absorbent is always desirable, or even when desirable that its position is a matter of no consequence.

While the logical order of considering the conditions contributing to or interfering with distinct hearing would be that employed above, it so happens that exactly the reverse order is preferable from an experimental standpoint. By taking up the subject of reverberation first, it is possible to determine the coefficients of absorption and reflection of various kinds of wall surface, of furniture and draperies and of an audience. The investigation of reverberation is now, after five years of experimental work, completed, and an account will be rendered in the following papers. Some data have also been secured on the other topics and will be published as soon as rounded into definite form.

THE NEW BIRMINGHAM UNIVERSITY.

A REPORT of the advisory committee appointed to inquire into the best manner of providing for scientific and commercial training respectively in connection with the new University of Birmingham has appeared. Mr. Andrew Carnegie and an anonymous donor each promised a gift of 50,000*l.* towards the establishment of these two departments. The question has been exhaustively considered in all its aspects, one feature of the investigation being a visit of inspection to colleges and universities in the United States and Canada by Mr. George Kenrick and Professors Poynting and Burstall. The committee have also made themselves acquainted with the facilities existing in various colleges and universities of England for the teaching of science in its application to industries. In their opinion no such teaching, complete as they contemplate it and as it must be if it is to be successful, exists in any college in Great Britain. This, they add, encourages them to believe that a really complete technical college would not only be of use to the industries of the district, but would attract a number of students from a much larger area. The first object in view has been the teaching of science in its application to industry, coupled with such technical instruction in handicrafts as will enable the students to complete their course in the University itself. The committee recommend that the facilities already provided in Mason University College should be supplemented by chairs of mining, metallurgy, engineering and applied chemistry. The scheme they submit contemplates the introduction of a complete equipment for the treatment of metals by heat and a small plant for treatment by electricity, as well as the necessary outfit for testing metals. Shops would be provided for manual training, and it is recommended that the machines used should be of the best and most modern type of English, American and foreign manufacture.

The committee further recommend the acquisition of 25 acres of land in the outskirts of Birmingham on which to build the University, their estimate of the total cost being 155,000*l.* The cost of maintenance, including staff, is put at 10,450*l.* per annum. On an estimate of 200 day students at 55*l.* a year each there would be a surplus of 550*l.* The cost of the education given in the existing institution would, however, remain to be provided. The advisory committee submit an elaborate scheme of commercial education, the adoption of which would entail an outlay of 6,000*l.* for building and equipment, and 2,200*l.* per annum for staff. The deputation to the United States and Canada report that in America subdivision of subjects and specialisation in teaching is carried much further than with us. They express admiration alike for the high ideal of scientific education which is the aim in American universities, and for the enthusiasm in all classes which renders it possible to approach so near that ideal. Everywhere, they say, they found evidence that the wealthier citizens realise the importance of University education, and encourage the universities by generous gifts, and everywhere, both by teachers and students, these gifts are being used for higher learning and research.

The Will of Mr. John Giles, architect, of 28 Craven Street, Strand, and Highfield, Totland Bay, Isle of Wight, who died on February 20 last, has been proved in London by Mr. James White, LL.D., Bank Buildings, Ludgate Circus, E C., and Mr. John Gough, architect, Walton-on-Thames, by whom the testator's estate is entered at 25,506*l.*

RICHBOROUGH CASTLE.

IN a letter to the *Times* Mr. Edwin Freshfield says :—Some seven or eight years ago a few noblemen and gentlemen, headed by the late Archbishop Benson and the present Bishop of Bristol, arranged for the acquiring of the site of Richborough Castle, with a view to its preservation. Richborough Castle is about a mile and a half to two miles from Sandwich.

I was one of those who were privileged to contribute. I drove over there yesterday from Dover to see what had been done. I do not think it was an inappropriate day for a sightseer, and I arrived there about half-past two in the afternoon.

The site has been very carefully and most effectually enclosed by a good and sufficient iron railing, and one very difficult, if not impossible, to climb over. The enclosure was well cared for and there were some sheep feeding within it, and a good collection of cocks and hens. There seemed to be a habitation just within the west entrance. In the days before the acquisition a civil little damsel who lived in a cottage not far from the western entrance provided candles to enable visitors to see the extraordinary underground passage in the enclosure. Finding the entrance gate locked, I applied to the inhabitant of this cottage, who regretted her inability to assist me, as the keys were kept by a person who lived in Fisher Gate, Sandwich, to whom she recommended me to address myself. I told her I had come from London and was not likely to come there again, and, moreover, had no time to go to Sandwich. She said she believed the custodian had been there, but had gone home, and so I went home without being able to get in. There are three substantial cottages within 150 yards of the ruin, a substantial farmhouse not very much further off, and a gate-keeper on the South-Eastern Railway hard by.

It does seem very strange that some arrangement could not be made for the keys to be kept within a reasonable distance of the ruin. Personally, I suppose it is immaterial to me, as I do not think I shall have an opportunity of visiting the ruin again. But, as I said, I do not think Easter Tuesday is an unreasonable day for a holiday-maker to visit Richborough, and I do not think half-past two o'clock an unreasonable hour

I should not trouble you with this letter if I knew whom else to write to. If it is a question of funds I should be very happy to contribute something to make the ruin more accessible. I was particularly anxious to photograph a part of the interior wall and failed in the object of my visit, which was not mere curiosity. I was at the moment very angry and disposed to envy the sheep and the cocks and hens, but on reflection I considered that if I was inside I should be wishing myself out again, for it must be said, to the credit of those who built the fence, that it is most admirably suited to keep those who are outside out and that which is inside in, which is something.

Canon Routledge, hon. sec. to the Trustees, says :—

I am sure I may say, on behalf of the Trustees, that we all extremely regret that Mr. Edwin Freshfield was unable to gain admittance to Richborough Castle on Tuesday last.

The "civil little damsel" to whom he alludes (and who is still our custodian) was obliged to leave when her father-in-law gave up the neighbouring farm, and to live in Sandwich, as the Trustees are unable to hire any cottage near the castle.

She attends, however, daily from 11 A.M. to 7 P.M. during the months of May, June, July, August and September. There are so few visitors during the rest of the year that she only goes up to Richborough occasionally, or when specially summoned.

She was present, I believe, the whole of Easter Monday, but I suppose that she left early on Tuesday, as no visitors had appeared up to two o'clock.

I sincerely hope that Mr. Freshfield will be able, on some future occasion, to photograph a part of the interior wall ; and if he, or any one else interested in antiquities, will communicate to me beforehand their desire to visit the castle at any time outside the months when the custodian attends there regularly, I will endeavour to secure that admission is granted to them.

ELECTRICITY AND ENGINEERING.

ON Monday Sir W. H. Preece delivered the "James Forrest" Lecture at the Institution of Civil Engineers, Great George Street, Westminster, on "The Relations between Electricity and Engineering." He said that electricity was only one of the many forms of energy. It was purely mechanical in its effects, requiring matter to render it evident to the senses, and was essentially a dynamical agent in the hands of the engineer to carry out his duties. It enabled him to direct energy to great distances, and there to apply force at will. The electric current had proved to be a powerful agent to break up crude materials into their useful and useless constituents. The electro-chemical industries of the world were very extensive. Electro-plating was one of the staple manufactures of Sheffield and Birmingham, while the decomposin bath and the arc furnace were revolutionising many industrie By means of electricity they had bridged the ocean and ann hilated space. Telegraphy was now established in their home and had become part of their daily life, not only in thei domestic circles, but in their urban requirements and in thei business relations. The regulation of the ever-growing traffi on their railways and the safety of passengers was also secure by means of electricity. The telegraph not only placed th manager of the line in communication with every station upo his system, but electric signals controlled the motion of ever train. The experience gained at Crewe during a period about twelve months from the working of a signal cabi containing about sixty levers had been such as to justif confidence and the extension of the system. Wireless tele graphy had made but small progress, owing to the simple fac that the demands for its services were so few. There was n commercial business in it. The economy and efficiency distributing power over mills, factories and workshops by electricity, instead of by shafting, gearing and belts, were so pronounced that the change was being effected in every countr with great rapidity. For traction purposes electricity ha made gigantic strides. In the United States tramway working by its means had become practically universal. In th United Kingdom it was making rapid way, and in connectio with electric lighting was giving great economical results Electric tramways were also growing apace, and a bol attempt was being made by the Metropolitan railways to wor the existing line in such a way as not to interfere with th existing traffic, or even with the permanent way. The automobile car of the future had not yet seen the light, but, in hi opinion, it would be electrical. With reference to electricity i war, a strong contingent of electrical engineers, under th command of Major Crompton, had volunteered for service i South Africa, and it was strongly hoped that they would soon hea good accounts of their performances at the front. The battleshi was the home of electricity. As regards sanitation, it helped ver much in obtaining pure air, pure water, pure food, pure soil pure dwellings and pure bodies, which were the panacea fo health and comfort. As to the practical developments o electricity in the future, the lesson which he had learned wa that the only thing which occurred was the unexpected. The could scarcely hope for new sources of energy to be discovered but there were existing ones which had not been touched yet When the evil day arrived for our coal supplies to give out i would perhaps be possible by the aid of electricity to utilis the heat of the sun and the tides of the ocean, and also b thermo-electric appliances to convert the lost energy of th earth's interior into some useful electric form.

On the motion of the chairman, seconded by Sir F Bramwell, a vote of thanks was accorded to the lecturer.

GENERAL.

His Royal Highness the Prince of Wales, Grand Maste of English Freemasons, has been pleased to appoint Mr. Henr L. Florence, of 13 Verulam Buildings, Gray's Inn, to the offic of Grand Superintendent of Works for the ensuing year, bein the third year in succession that this office has been conferre upon him.

An International Congress of Theatrical Art will b held at the Paris Exposition from July 27 to 31.

M. Loubet will inaugurate the two Palaces of Art in th Champs-Elysées to-morrow, and on Sunday they will be ope to the public.

The Local Government Board are about to issue an orde authorising the Metropolitan Asylums Board to expend th sum of 257,100*l.* on the erection of the Joyce Green Hospital and to obtain the amount by a loan repayable as to 246,000*l* in thirty years, and as to 11,100*l.* in fifteen years.

A New Musée has been erected in Nantes from the design of M. Josse. A valuable collection of paintings has been acquired especially the French schools of the seventeenth and eighteent centuries. One salle is occupied with the works of painters o the district, including Elie Delaunay, Ch. le Roux, Bournichon Luminais and Paul Baudry.

Messrs. Douglas & Fordham, of Chester, are to prepar designs for the chancel in Buckley Church, Flintshire, which i to be a memorial of the late Mr. Gladstone.

A Biography of the late Sir John Fowler, Bart., th engineer for the Metropolitan and District Railways, an one of the engineers of the Forth Bridge, has been written b Mr. Thomas Mackay, and will shortly be published.

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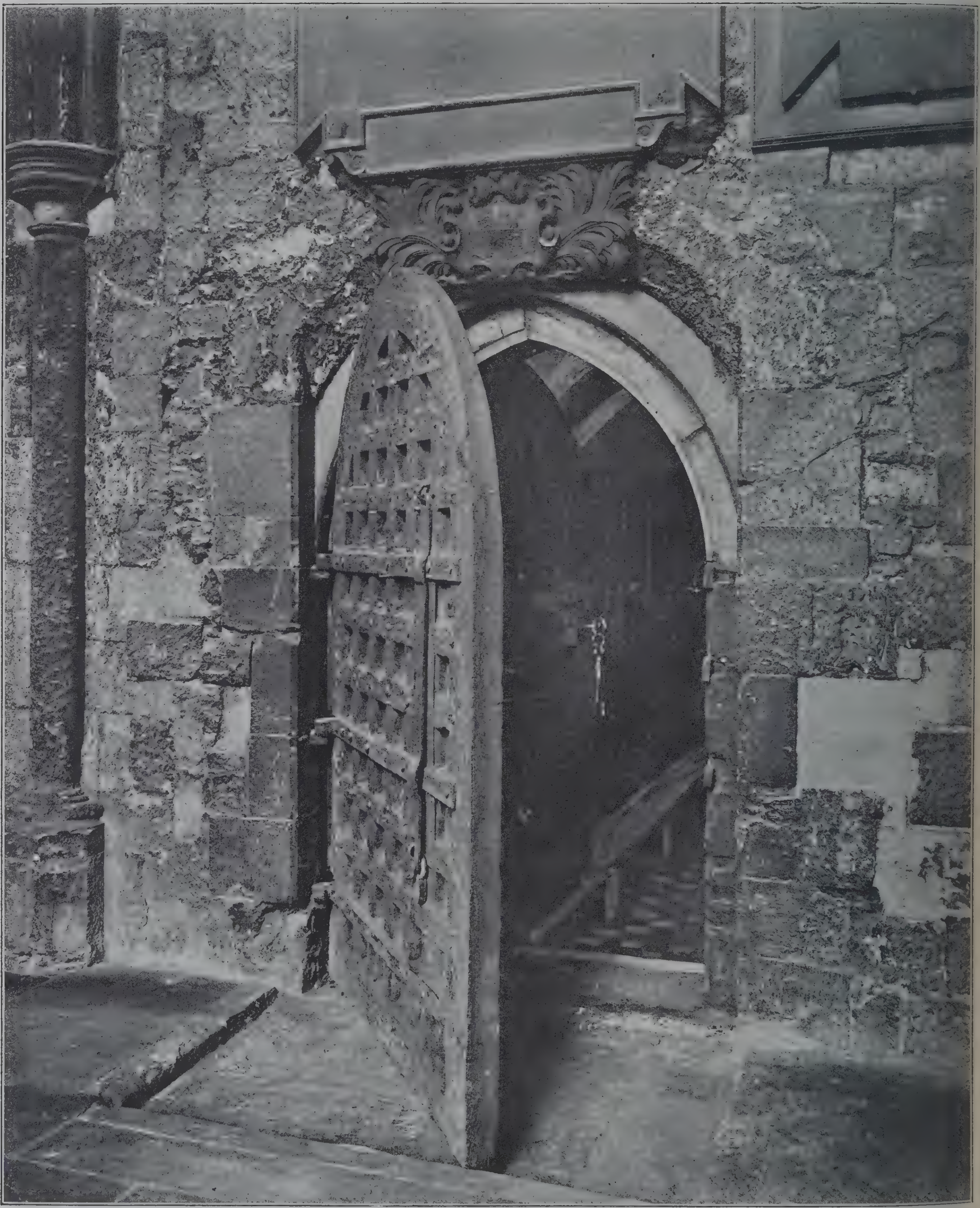
The Architect, April 27, 1900.



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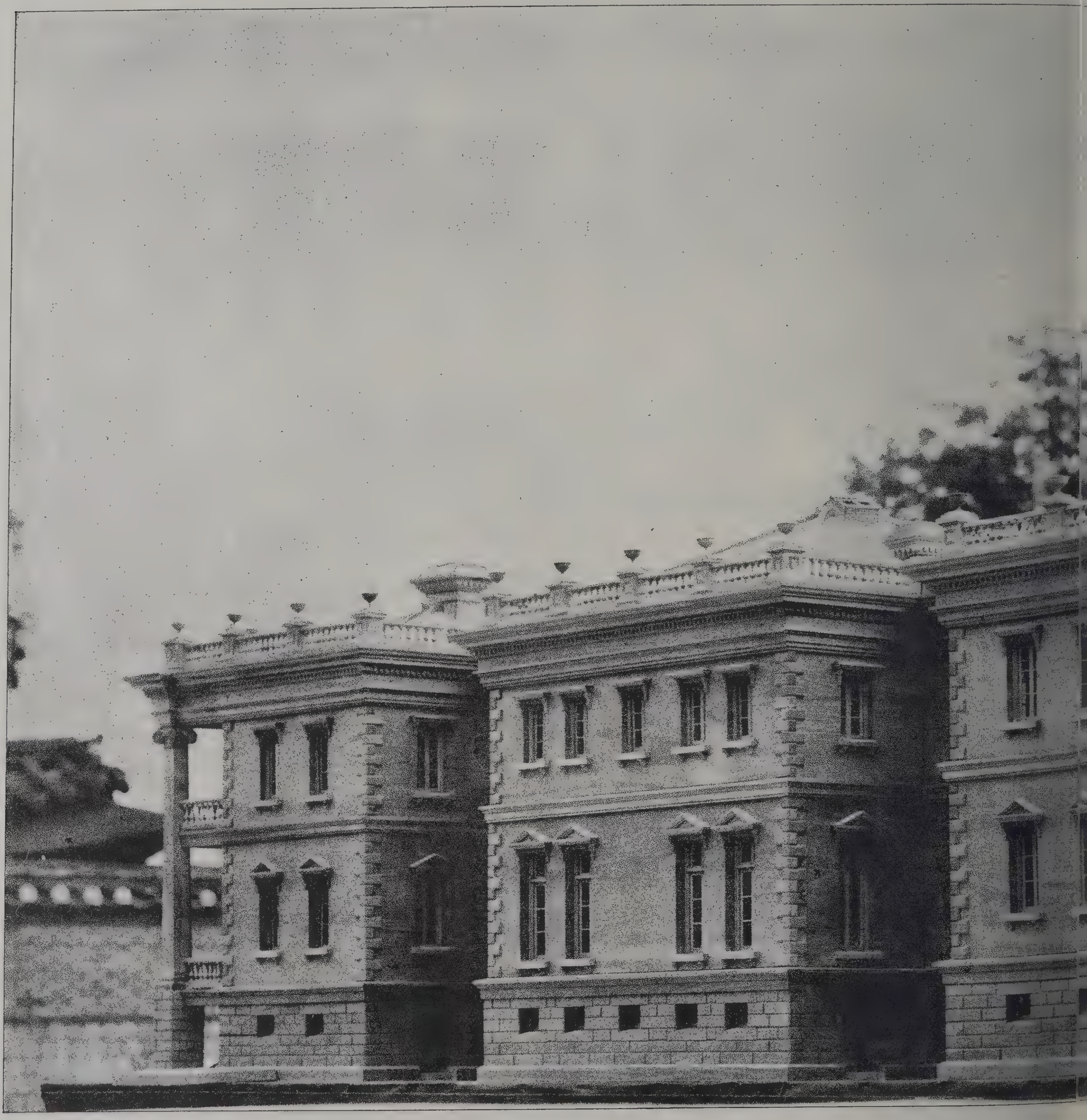

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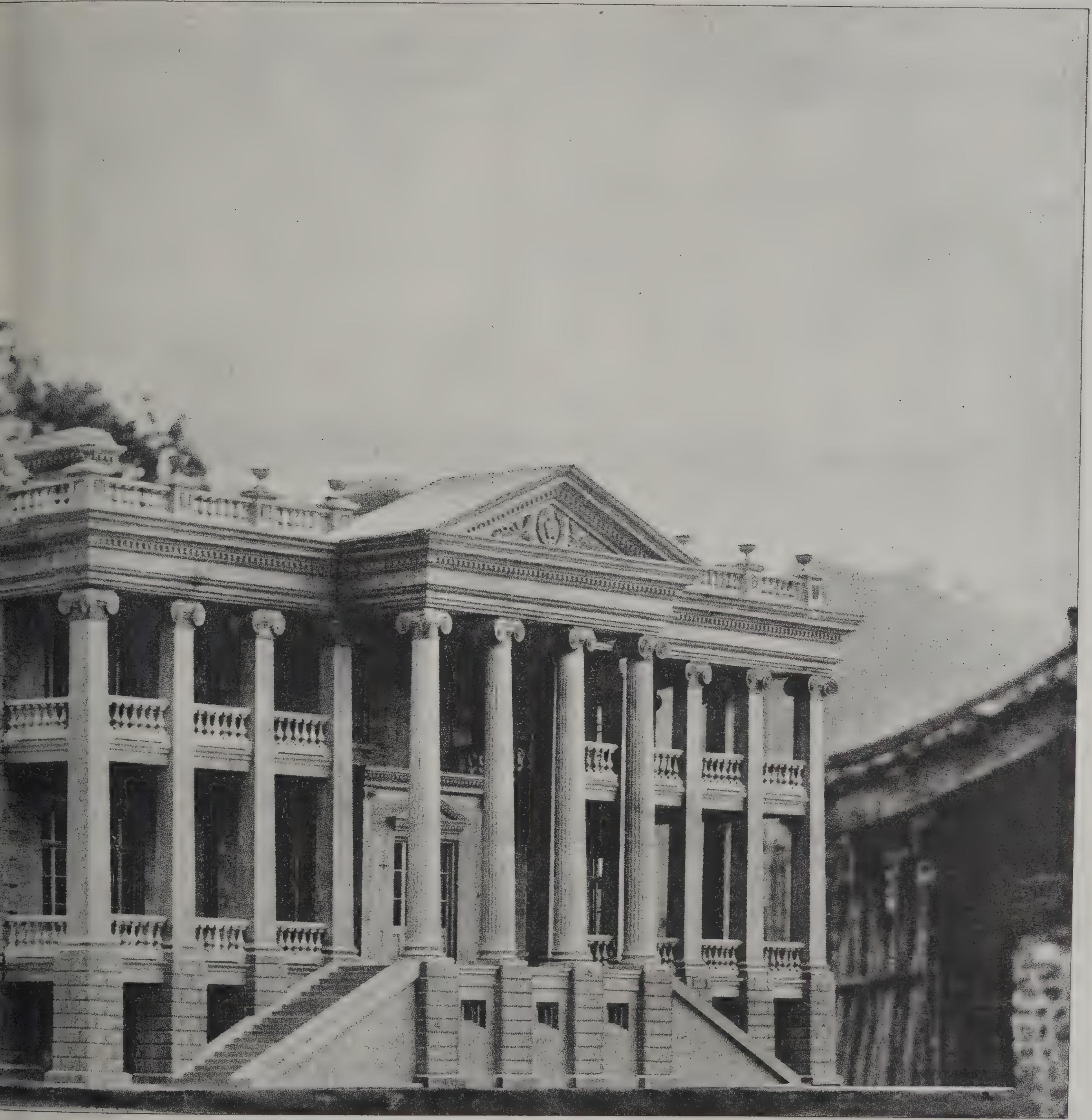

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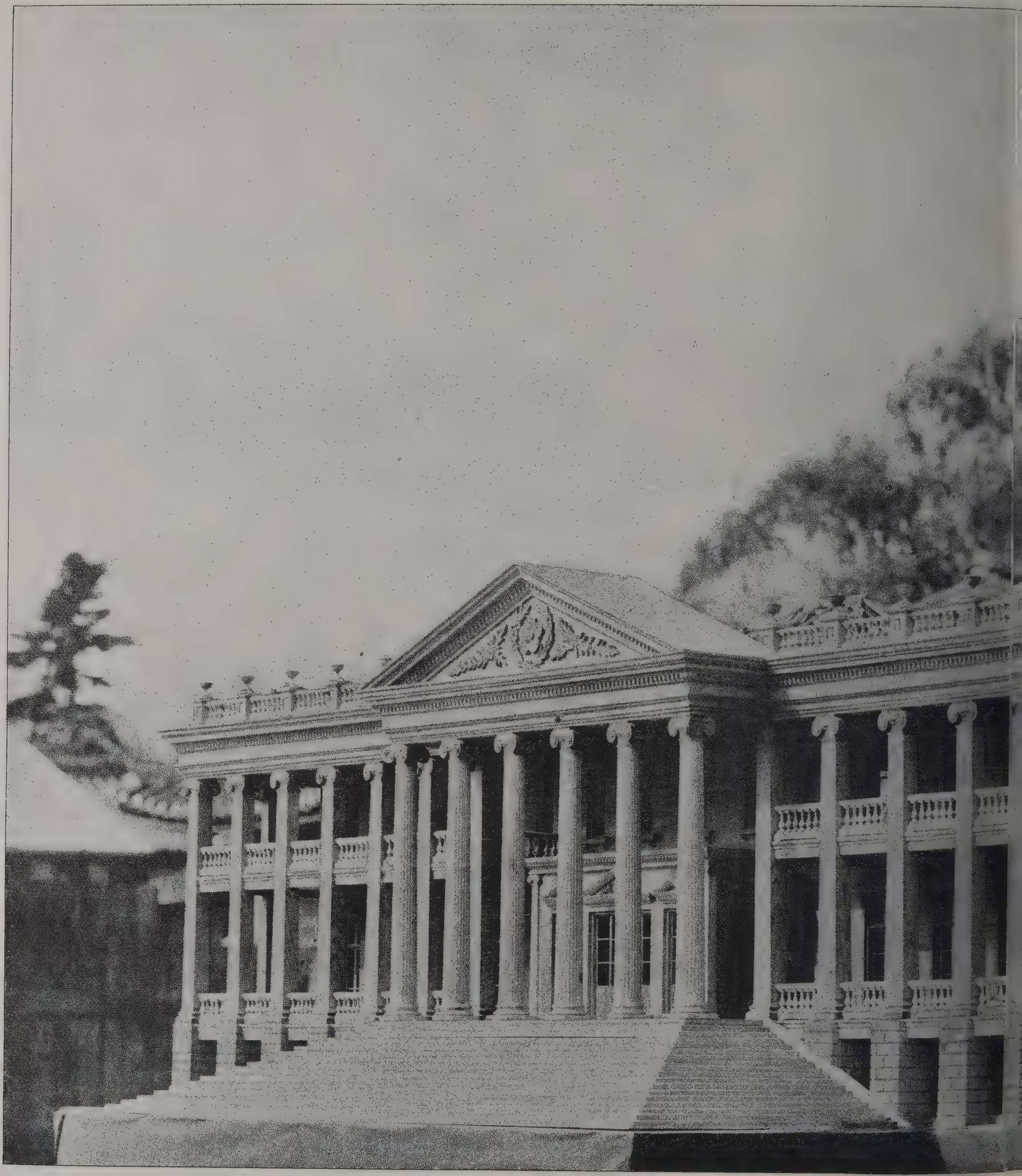

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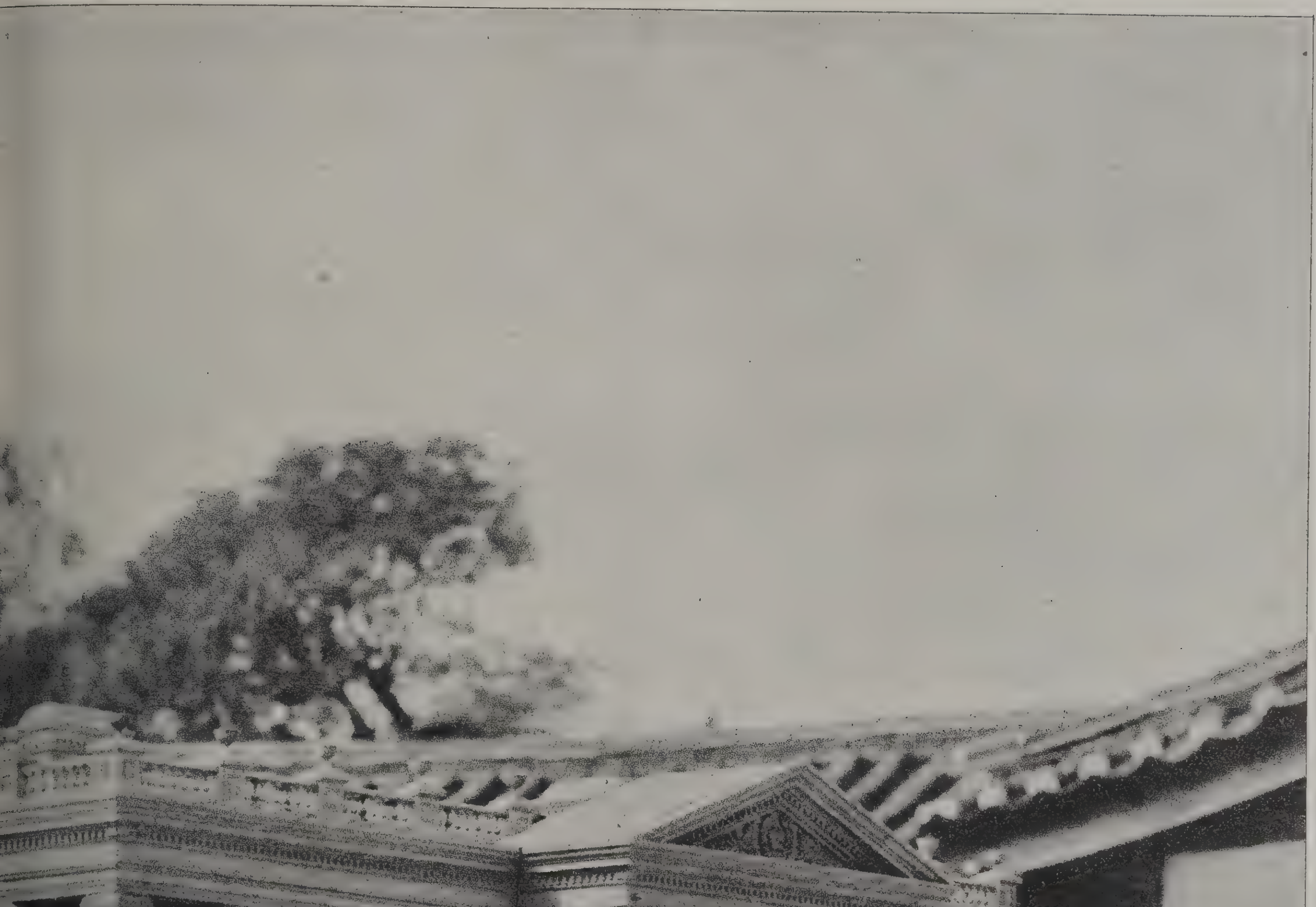

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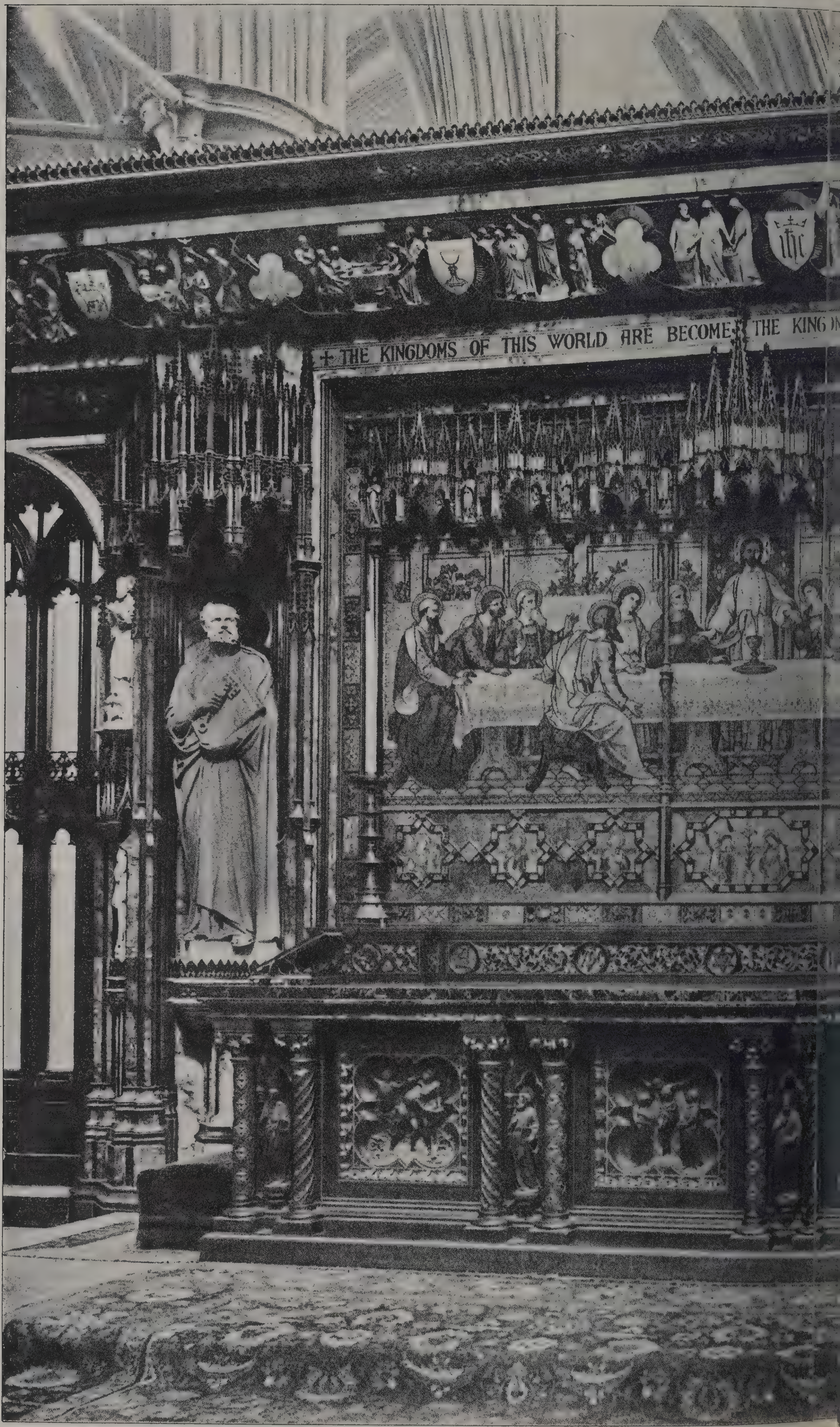

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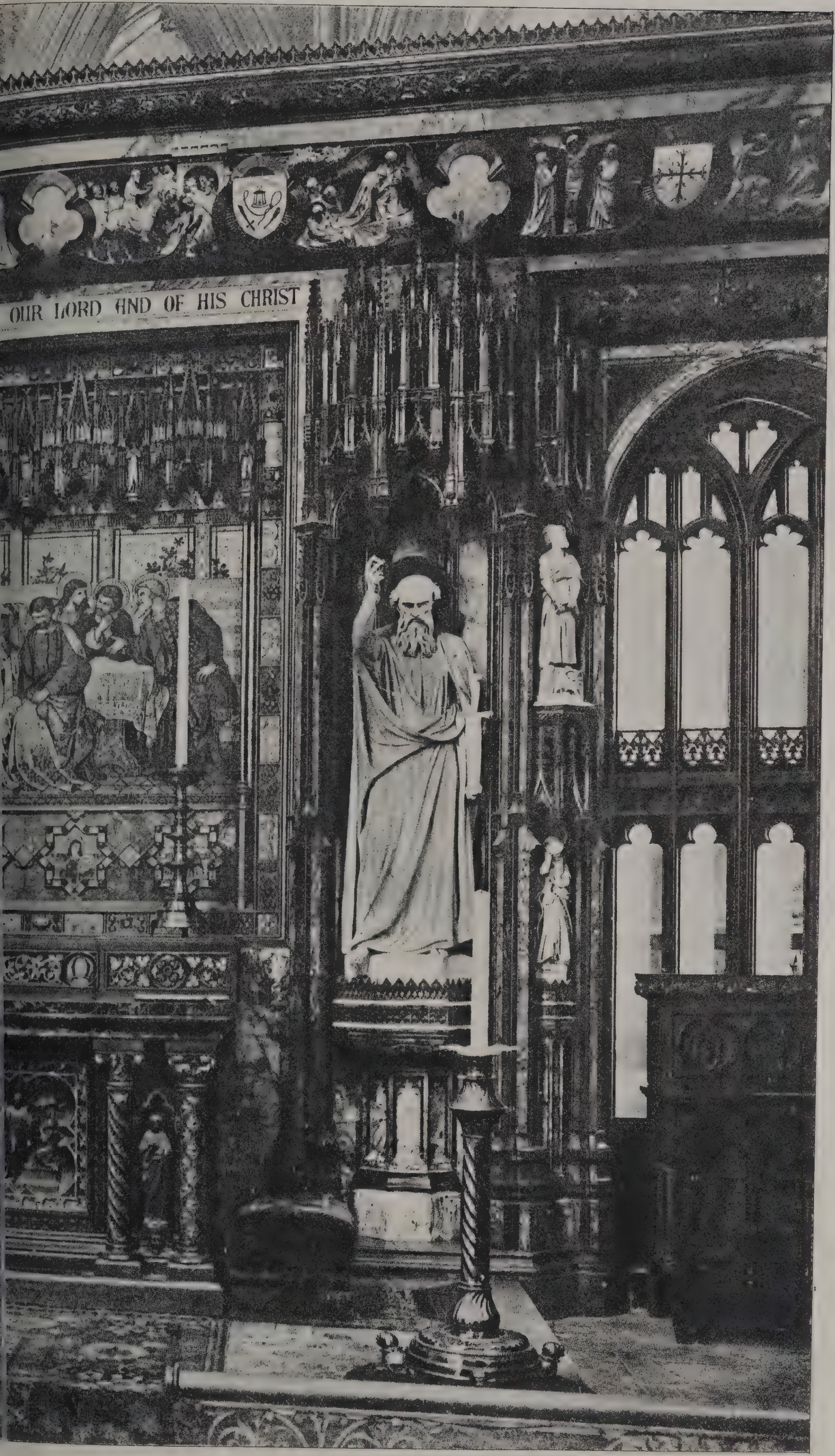

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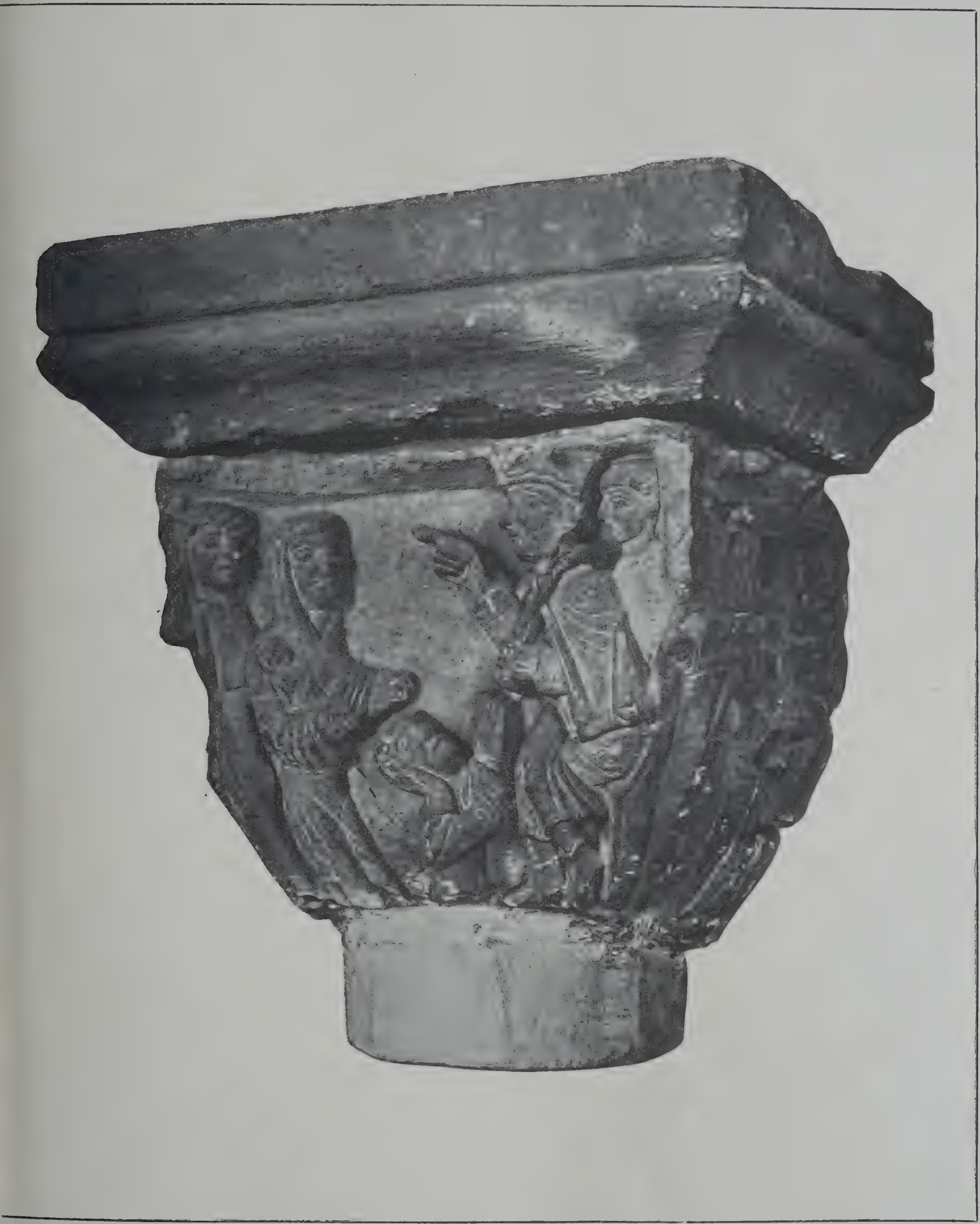

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WESTMINSTER ABBEY, No. 48.
ANCIENT NORMAN CAPITAL (DETACHED).

The Architect.

THE WEEK.

It is not expected that M. Baffrey's inquiry into the causes of the fall of the footbridge over the Avenue des Suffren, in Paris, on Sunday last, will elicit any unanticipated evidence. M. Georges Debrie, architect, acts as his technical assessor. The bridge was incomplete, for it was intended to support the platform not only by slight piers of concrete and steel (béton armé), but also by a sort of cable of like materials. The footbridge would then resemble a combination of an ordinary platform bridge and a suspension bridge. Whether the cable would add much to the strength of the structure, which was nearly 60 feet in span, remains to be discovered; but we may give the benefit of the doubt to the designers. Moreover, it is only fair to recall that when Robert Stephenson proposed the employment of iron tubes over the Menai Straits, to form the present Britannia Bridge, he contemplated the use of great iron chains to increase the safety, and it was through belief in that means of support authority was given to construct the bridge. The footbridge was to be tested on Monday last, if the catastrophe had not occurred. It is also to be noted that the work was done without the aid of a contractor, under the direction of M. Galeron, the architect for the great globe, with which the footbridge was to communicate. The absence of a contractor usually means deprivation of skilled foremen and employment of workmen without experience. Apparently the architect did not enter into calculations for the strength of the structure, but trusted to those furnished by the engineer to the inventor of the system, which is a Hungarian combination of concrete and steel netting. There can be no question that the materials were of excellent quality, but it is open to speculation whether sufficient time was allowed for the concrete to set. The grounds of the Exhibition now afford too many examples of that "sweaty haste" of which Shakespeare speaks. To serve a political purpose the Exhibition was opened prematurely, and it is not to be expected that the completion will be carried out as efficiently and systematically as is desirable. Concrete is unlike stone, timber, or iron; it requires time for a thorough consolidation, and experts alone are competent to decide when it has attained its proper consistency. But as time cannot be bought there is risk attending all the Exhibition buildings in which concrete has been used. From the circumstances under which the bridge was constructed it will be difficult to fix the responsibility for its safety.

The last years of Michael Munkacsy, who died this week, were, as is well known, spent in an asylum, and his removal from this world is not, therefore, to be regretted. Few artists have lived under stranger contrasts. During the early years of his life he was among the poorest of the poor. But when a medal was awarded to him from the Paris Salon of 1870 for his *Last Hours of a Man condemned to Death*, his countrymen, and it might be said all Europe, regarded him as a genius whose works were to be secured at any cost. His pictures were purchased before they were completed. A correspondent of *The Architect* twenty years ago described an interview with Munkacsy. His house was said to suggest the feudal castle of a magyar; the attention of a visitor was bewildered by the number of precious objects which were to be seen on all sides. The artist was described as conveying the expression of a man of iron; strength and will were united, qualities without which he could not have struggled so victoriously against the obstacles in his early years. As a rule his pictures were tragic. *Milton dictating "Paradise Lost" to his Daughter* won the greatest success, but the incident is a sad one. His *Christ before Pilate* and his *Crucifixion* are also among the pictures which have appealed to all the world. His countrymen could not always neglect an artist who had increased the artistic renown of Hungary. He was tempted to abandon his adopted country and to undertake the office of Inspector-General of Fine Arts at Buda-Pesth. But he had scarcely undertaken the office before disease crept into his brain, and he became helpless and hopeless in the prime of life. He sacrificed his life to art, for it is a fact he was content to live in his studio from year to year with no more exercise than was to be found at his easel. He had many admirers in England, and it is to be regretted that there is no work from his hand in any of our public collections.

Section 150 of the Public Health Act gives authority for ordering owners of private streets to perform certain works within a specified time. Before the notice is given the surveyor is to prepare plans and estimates. If the order is not carried out the urban authorities may execute them, and recover the cost summarily from the owners in proportion to the frontage of the several proprietors. It would appear, therefore, that the power of an urban authority is limited, and that the object of the Act is to enforce the execution of necessary works by owners of property, who are generally disposed to do less than is demanded of them. But when an owner has carried out works on a larger scale than that of the urban standard what action can be taken by the authority? This was the issue which was tried in the Court of Appeal on Monday in the case Robertson *v.* the Mayor and Corporation of Bristol. The plaintiff sought an injunction to prevent the Corporation from meddling with Robertson Road, which he had laid out. According to the local regulation the carriageway should be 24 feet wide, with two footways each 6 feet wide. The plaintiff laid out a road with a carriageway of 30 feet, and the footways were each 7 feet 6 inches wide, or, in other words, the plaintiff's road was 9 feet wider than the normal width of the road. Believing that they could rearrange a road under the section we have quoted, the Corporation proposed to diminish the width of the footways to 6 feet, and thus to increase the width of the roadway. The plaintiff applied for an injunction to restrain the defendants. Mr. Justice Grantham, when the action came before him, decided that under Section 150 an urban authority can deal with a road or street in any way which is conducive to the public interest. The Court of Appeal decided in favour of the plaintiff. It was held that Section 150 empowered the authority to perform certain works, but there was no power given to alter the proportions of a street after plans had been deposited and approved. The case is, therefore, of interest not only to local authorities, but to owners of building estates and authorities.

It is to be hoped the fire in Ottawa will not interfere with the progress of building in other parts of Canada, for it was anticipated that in many of the towns, and especially in Toronto, this year would be remarkable for the quantity and the quality of the building work which was to be executed. In Toronto the supply of materials was not equal to the demand. One firm declared that in architectural luxuries, as they might be termed, people were taking much more interest than in former years. Both in business and residential architecture this was the case, and the improved tastes were reacting throughout the whole trade. The demand for a superior class of materials had grown, but a catastrophe like that at Ottawa may dishearten people and leave them to think that building is governed by fatalities which are not to be overcome. The depression, if any, cannot endure; the instinct to advance would overcome all obstacles, and the principal effect may be to call increased attention to the quality of the materials used.

The architects of Paris attached more than usual importance to the competition between new buildings which was to take place this year. A great many rich proprietors from the provinces, it was expected, would visit the capital, and the authors of the successful buildings were likely to receive commissions from them. The collection of drawings and photographs sent to the Hôtel de Ville is larger than usual. It is not improbable, however, that the competition for 1900 may have to be abandoned. Unusual delay has arisen in forming a jury. When the necessary number of municipal councillors were selected an election took place in Paris, and one of the jurymen was rejected by his constituents. It will therefore be necessary to constitute a new jury. There are so many subjects to occupy attention in Paris at present, there may be a much longer delay before that event is accomplished. M. Bouvard and M. Sanger, the representatives of architecture, cannot act without the presence of representatives of the municipality.

ARCHITECTURE AT THE ROYAL ACADEMY.—I.

PAINTING and sculpture in the Academy this year form not only an attractive but an excellent exhibition. It would hardly be creditable if architecture were below the average. To the general public the contents of the Architectural Room may not offer much interest. But there can be no doubt about the skill seen in many of the designs. The drawings are well arranged. A frieze in two parts, Pompeian in style, representing the Attic Months, by Mr. J. S. Babb, at once attracts the eye on entering, and the two drawings serve as pendants for an enlargement of part of Mr. Belcher's design for the new building for the Eastern Telegraph Company at Finsbury Pavement. In the centre of another wall is a large drawing of the Royal College of Science, South Kensington, designed by Mr. Aston Webb. Mr. Brydon has a drawing of the Circular Court in the new Government offices. Mr. Collcutt has an important building for Lloyd's Register. Mr. Norman Shaw, in conjunction with Messrs. Willink & Thicknesse, is represented by a drawing of Parr's Bank, Liverpool. Mr. Jackson sends a view of new buildings for the University of Cambridge. Messrs Ernest George & Yeates show a drawing of a house and one of a hall. A remarkable design bears the name of Mr. John Kotera, which could hardly have appeared at a more inopportune time, for the subject is "An ideal town to the entrance of the proposed submarine English and French tunnel." Although the millennium must have arrived to allow of the erection of such a work, yet there can be no doubt that the designer is skilled, and architects will appreciate it, as well as two sheets of architectural studies by him. It also deserves to be noted that in selecting drawings the customary limitations have not been respected. Several of the exhibitors appear in the Academy for the first time, and London has not been allowed to obtain a monopoly of the wall space. For several reasons, therefore, the exhibition is interesting. There is also a larger number of drawings exhibiting practised skill, and neither among the pen drawings nor those in colour can we perceive so many weak attempts as were allowed to pass in former years.

If we follow the order of the catalogue we first meet with drawings by Messrs. Ernest George & Yeates. "Holwell, Herts," is a big house but with a plainness that in this case suggests repose. Large pilasters are used instead of quoins at the angles, and oval œils-de-bœuf are introduced in the gables. The house indicates the control which has been exercised rather commonly this year. There is not so much disturbance from a large number of ornamental details as was in vogue a few years ago. The title, "Hall Screen, Edgeworth Manor, Cirencester," does not do justice to the second drawing. The screen is elaborately carved, but there are also a staircase and window recesses. The treatment is Jacobean, and the view could be introduced in "Nash" without appearing out of place. Mr. W. Davidson's "Proposed House in the North of Scotland" is small, with white walls and green slating; care is taken to introduce the corbee steps to give character. Cottage-type houses continue to be attractive. and examples of them come from Mr. J. C. Perkin, Mr. Atkin Berry, Mr. T. Davidson and Mr. H. D. Bryan. Mr. Cutler's "Italian Hospital, Queen Square," is reminiscent of the Bloomsbury of the eighteenth century. The pilasters are carried through the two storeys, and a small dome suggests Italy and that a chapel forms part of the building. The "Proposed Church, Newcastle-on Tyne," by Mr. G. W. Ward, is most interesting, although purists would say established precedents are not followed. There is no steeple, and much else that is supposed to be necessary is omitted. But, modern as it is, we see a respect for Mediæval symbolism, and we suppose it is as orthodox as any of the ordinary types. "Martin's Bank, Bromley," by Mr. Ernest Newton, records the date of the foundation as 1558, and although the style is not sixteenth century, there is an old-world grace about the building which is pleasing. The lower part is of stone, the windows are curved in plan, and in the upper storey is some ornamental railing. "The Medical Schools, Cambridge," by Mr. E. S. Prior, are as severe as if they typified Science. The entrance is at one end, and the whole front, therefore, appears to be devoted to lecture-rooms and laboratories. Mr. T. G. Jackson's "Cambridge Buildings" consist of a geological museum, a law library and a law school. The library is the most important; very tall narrow windows are employed and ornament is introduced to a moderate extent between them. The lower story consists of bold arches. A drawing by Mr. R. W. Schultz shows "The Reconstruction of Wester Kames Tower, Isle of Bute." It is a good example of a Scottish keep with a projecting turret; the stone employed, from its variety of colour, adds much to the effect. In the "Music Room at 1 Cadogan Place," by Messrs. Green & Abbott, timber has been largely employed forming the flat ceiling and the panelled walls. In "24 Duke Street, Piccadilly," by Mr. G. A. Lansdowne, as in many other works on the walls, colour effects are sought after by using a variety of materials; in this case yellow, white and green are marked, and the success of the attempt gives hope of a reform in the dingy streets of the metropolis. The "Design for Art Galleries, Bradford," by Mr. T. Davison, shows a row of severe windows, with semicircular arches, on the ground storey. The wall above is relieved by medallions and pilasters, while on top is a balustrade. Garden design is now in favour. "A Sunk Garden," by Mr. Tanner, jun., shows seats and clipped trees, a colonnade and statuary. Messrs. Mee & Jennison have a couple of roadside inns which are picturesque, but owe not a little to the skill of the draughtsman. "Stelling Hall, Northumberland," by Messrs. Armstrong & Wright, is another large plain mansion; bay windows flank the entrance, but otherwise symmetry is not insisted on. Mr. R. P Whellock, in "A Scheme for the Supply of Water for London," shows by geological sections the feasibility of utilising an artesian well. In work of the kind the important part is below the earth; but in Paris there is a very handsome tower at Grenelle which expresses from its height the greatness of the undertaking. The structure shown in the drawing might serve for a small town, and in that case it could be considered as appropriate and as well designed, but it has not the dimensions we expect in all metropolitan works. "The Retreat, Lakenhead," by Mr. A. N. Prentice, is another colour experiment, and the sober greys and browns are in keeping with the name of the house. The site for the restaurant designed by Mr. S. Hack has a very narrow frontage, on which no more than what might be called a strip of a house can be erected. The building is treated in an almost coquettish manner, and the variety shown throughout gives a festive character to it. We suppose "Inholmes," by Mr. R. W. Schultz, is a restoration, for the house has the genuine old fashioned character. Messrs. Bryan & Roberts's "Boys' School and Master's Residence at Exeter" is of eighteenth century type, but a more consistent group might have been formed out of it. "The Firemen's Cottages, Todmorden," by Mr. J. Horsfall, have not the barrack-like character which is adopted in many towns. Mr. R. Blomfield's "Design for a House in New York" will not appear out of place in some quarters of that city. It is really more English than the ordinary colonial type of dwelling. It belongs to a period, say the beginning of last century, when Italian rather than Dutch models were preferred. The hall is large and dignified; the windows are long and separated by three-quarter pillars united by swags on first floor, circular œils-de-bœuf are employed. The "Design for a Village Church on a Hill Slope," by Mr. R. S. Oldacre, shows the tower in front which is approached by steps, but the building has a massiveness as if it would have at some time to resist a pressure from the hillside. Mr. Temple Moore's "Church, Sledmere Park" presents a handsome screen to our view, with a pulpit near it which is approached by stairs, and a side chapel; the whole forms a picturesque interior. In the "Design for a New Chancel, St. Paul's, Bermondsey," Mr. Ingram employs colour with much skill and judgment, figures of saints are introduced and the whole details are refined in character. In the "Organ Screen and Choir Seats, Tintagel," Mr. F. Glennie employs massive and severe forms; wood, we suppose, is plentiful in the district, as the parts are of very liberal dimensions. Mr. James Ransome's "House at Leicester" shows a more ponderous chimney than is to be found even in Sussex; colour is suggested, but the drawing does not make it clear how so much blue is obtained. In the "Proposed Offices, West Hartlepool," by Mr. J. H. Garry, ashlar is used in the lower part with red brick arranged in stripes above; the building is finished with a very high gable. A "House at Wembley Hill," by Messrs. Gibson, Clarke & Warwick, almost approaches the cube in form; a dial is introduced over the door and jalousie shutters protect the windows. Mr. Prentice, who is in force this year, in his "Entrance Gates and Lodge" has an excellent group; the plain columns are large enough to give effect without appearing ostentatious. Only a part of Mr. P. H. Watson's view of "Lea Park" is exhibited, but it indicates much variety in the central part, of which a tower is a principal feature; a balustraded approach from its arrangement adds novelty to the mansion. Messrs. Harrison & Ward in their "House at Warlingham" have evidently adapted the exterior to the plan, and symmetry is therefore out of place. By carrying up the roof of the porch to the upper roof quaintness and colour are obtained. "King's College School, Wimbledon," by Messrs Banister Fletcher & Sons, is in late Gothic. The chapel is in the centre, but it has not been emphasised by height, and consequently the front is suggestive of a terrace. There is reason for the arrangement, which is economical, and not suggestive of expenditure for the sake of mere effect.

The "Design for the Hall of a Country House," by Mr. G. Bailey, is to be carried out in stained deal and lacquered copper. Square timber predominates, the exception being the timber arches; it might be supposed that the effect is monotonous, but it does not appear so in the drawing. The "House at Weymouth Park," by Messrs. Niven & Wigglesworth, has three principal windows, which are alike in design although on different levels; on the first floor the ends of the façade are emphasised by means of square pillars. The "House at Willenhall Park, Barnet," by Mr. G. D. Martin, could easily be converted into a chapel; part of the roof is very deep and it is carried up from the porch. In "St. Stephen's National Schools," by Mr. A. T. Bolton, there is more variety than is to be observed in the average Board school, but one thinks with alarm of young children having to ascend to the great height at which the additional storey is built. In "A House at Hendon" Mr. George Hornblower has been careful to avoid monotony; an octagonal turret is an interesting feature, and the lattice-work in the balcony is not wanting in merit. Designs for a church at Barnsley have been contributed by Mr. Trinnell, Mr. Nicholson and Mr. Corlette. In the first there is no vicarage, but the others make it a part of the design. Mr. Nicholson introduces a slight tower as well as a churchyard cross. Mr. Trinnell has been as economical as possible, and his design has many excellent features. The "Design for a Façade of a Military Museum," by Mr. J. E. Spain, might have been by a French architect. Ashlar is used for the lower storey and red and white bricks for the walls above. The roof is formed as a cupola, surmounted with the figure of Victory. The "Design for the Plumstead Municipal Buildings," by Messrs. Hall, Cooper & Davis, obtained second prize. All the façades differ, and on that account the design may have been considered as too costly for adoption. "The Grange, Totteridge," by Mr. Nicholson, is of red brick of a rather sombre colour. The same material is employed in the conservatory, which in consequence appears more heavy than is needful. Mr. T. H. Mawson shows some designs for gardens, which are all of the formal type. Mr. Buckell's "Club House for the Wingham Golf Club" is the usual long low building consistently carried out; the windows and porch form a continuous line. The "Study for a Pulpit," by Mr. C. E. Power, is less severe than the majority of structures of that class. At the back the Crucifixion is introduced with a series of ornamental panels; so much lightness might be out of place, but its execution ought to be attempted as an experiment. The "Design for the Town Hall, Clitheroe," shows one of those very steep inclines which are so difficult to successfully treat, especially when the site is at the junction of two similar streets. Messrs. Briggs & Wolstenholme have made the outline of the building at the end semicircular, and have imparted a massiveness to it by which the customary effect of appearing to slip is overcome. The "Design for Refitting Mission Church, Walworth," by Mr. Nicholson, suggests that timber is largely employed; colours and embroidered stuffs enhance the effect. Mr. E. B. Wetenhall has adopted a circular mount for his drawing, and by that means a contrast to the rigid lines of a "House at Pinner" is secured. A part only of the building is seen, but that suggests excellent grouping. Mr. A. Keen's "Edge Hill, Limpsfield," is another of the cottage type of houses. Messrs. Harrison & Ward, in "53 Maddox Street," have made the most of a narrow frontage; parts of the design are suggestive of Venice, and the building will form an excellent contrast to those which are near it.

THE OTTAWA FIRE.

THE Canadians have shown so much patriotism in supporting Great Britain in the South African struggle, the intelligence of the fire in Ottawa and its suburb Hull, which occurred on Thursday in last week, has caused more concern than is usual. In Canada, as well as in the United States, conflagrations are not rare, and there have been Canadian fires in which life and property were sacrificed on a portentous scale. But in the latest case, as we have just said, there are more reasons for sympathy than formerly existed.

It is well, however, to understand that in North America large fires in buildings are regarded differently from what they are in this country. In the American comic papers the fire which is destructive of buildings is a constant source of inspiration for jokes. It is taken for granted that houses are erected in order to be quickly destroyed, and both proprietors and tenants make their arrangements with a view to that result becoming profitable to them. The business of insurance companies is conducted on a more daring plan than that which is adopted in England. Apparently it is a most risky business, but English offices are not afraid to take a share in it. The Ottawa fire will, it is understood, give rise to many claims in this country, but as losses and gains are calculated on a large scale, we suppose the latest calamity will not make much difference to the shareholders in any of the offices. So long as it is possible to be made secure against all financial mishaps, flimsy houses will be erected and catastrophes will occur.

It should also be remembered that American businesses, if successful, are usually of quick growth, and in the buildings present rather than future necessities are considered. Both engineering and building construction have been guided by a similar principle, which is immediate profit. People often wonder why so few English railways pay more than 5 per cent., and the dividends of a great many companies are of a far less amount. In America larger profits prevail. The difference is not entirely owing to traffic, but rather to the opposite methods of construction. The American railways were for many years constructed in as cheap a way as engineers and directors could devise, whilst the English railways were built as if they were to exist for centuries without change. American buildings, like American railways, have been completed as if merely to serve for temporary purposes. In industrial buildings this is especially the case. A large tract of ground is secured, one or two sheds are put up. If business increases two or three more are added, and so expeditious construction goes on "ad infinitum," or, to be more exact, until all the available space is occupied. It is sufficient to look at the illustrations of any great industrial works in order to discover how fragile and liable to destruction are manufactories which may have a universal reputation. Of late years efforts have been made by the authorities to secure more substantial walls and floors, but the ease with which buildings supposed to be fireproof are destroyed in America testifies that much laxity is allowed in the interpretation of by-laws.

When we learn that one company in Hull possessed forty factories and employed a couple of thousand men and women, we can realise how much work can be done in buildings which to English eyes seem to be like the huts employed in military manœuvres. The forty factories were easily destroyed, but the expedition with which substitutes for them can arise, like an exhalation, is an advantage which is as commendable to the Canadian as to the American mind. The people who are thrown out of employment can realise that they have to suffer for a brief period only, and it is quite possible they would prefer timber buildings corresponding with those the flames have overcome rather than factories constructed of enduring materials and possessing architectural character. In fact, it is a general belief in America that towns or districts made up of unsafe buildings have more of the go-ahead character and bring more wealth to all connected with them than those in which venerable houses are to be discovered. Prosperity is expected to arrive immediately, if at all, and the buildings which are provided suggest anxiety to have accommodation ready whenever the fickle goddess arrives. It is, therefore, vain to expect that such destruction as has occurred at Ottawa and Hull will do much to alter the character of American construction. The whole system of manufactures will have to be changed before there is an approach towards the system of construction which has to be adopted in England, France and Germany. But the present calamity has brought suffering which demands relief, and the Lord Mayor of London recognised the desire of the country when on Monday he opened a fund to aid the people of Ottawa.

The system, or rather want of system, which is accepted in America would be entirely out of place in this country. Happily, the by-laws in most towns are an obstacle to the adoption of inflammable materials alone in buildings. But we are not without our own dangers. The paper which Mr. C. E. Goad read before the Insurance Institute at Manchester, and which is published by the British Fire Prevention Committee, suggests the risks that still dwell among us. The conflagrations described as occurring during the last ten years in London are those of Charterhouse Square, St. Mary Axe, Old Bailey and Fleet Lane, Tabernacle Street, Finsbury; Bermondsey Leather Market (2), Minories, South-West India Docks, Charlotte and Leonard Streets, Finsbury, Cripplegate. In the first case the fire extended over a good wall "on account of the shape of the roof and the presence of large skylights." In some of the other cases the inflammable nature of the stock was the primary cause. At Cripplegate the fire spread from the upper floors across the light courts and narrow streets. In a fire at Nottingham the flames were able to spread through the walls in consequence of the wooden joists being built through them. At Sheffield a large wooden ventilating turret served as a shaft for flames. In Bradford, where the damage was from 280,000*l.* to 300,000*l.*, we are told that the presence of more than the ordinary quantity of joists and many pitch-pine uprights aided the spread of the fire.

Now it is remarkable that Mr. Goad has to admit that the spread of fire insurance seems to invite the evident want of care that we oftentimes deplore, and his advice is that the insurance companies should exact adequate premiums to allow for those disasters which must be expected to occur. His words will suggest the modern method of considering fires, that is, accepting them as inevitable, and turning them to a source of profit instead of a serious loss. We cannot believe that that is a policy which should be universally adopted. It may suit the Americans who are wanting in the power which is called inhabitiveness. But in England what seems to be best adapted to our nature is to preserve buildings as long as possible. The fire at Ottawa can therefore be a lesson to us. It will suggest that flames are irresistible when there are flimsy materials, and to attain a desirable state of security it becomes necessary to employ materials which have fire-resisting qualities. There are degrees among them, and those who wish to have the nearest approach to security must be prepared to pay the prices by which their employment will be guaranteed.

The Council of the Institution of Civil Engineers have made the following awards for papers read and discussed before the Institution during the past session:—A George Stephenson medal and a Telford premium to Sir Lowthian Bell, F.R.S.; Telford medals and premiums to Messrs. H. H. Dalrymple-Hay, B. M. Jenkin, F. W. Bidder and F. D. Fox; a Watt medal and a Telford premium to Mr. J. Dewrance; a Crampton prize to Sir Charles Hartley, and Telford premiums to Messrs. C. N. Russell and R. A. Tatton.

THE WATER-COLOUR SOCIETY'S EXHIBITION.

THE catalogue of the summer exhibition of the Royal Society of Painters in Water-Colours calls attention to the circumstance that among the exhibitors are Miss Maria Harrison, Mr. William Callow and Mr. Carl Haag, three artists who for half a century have been regular exhibitors to its exhibitions. The preface adds:—"The occurrence at the end of the first century of the Society's career of an event so auspicious—so fraught with grateful memories of works bearing the above names which have adorned and given distinction to its exhibitions, and with pleasant associations of long years of intimate and friendly intercourse—has prompted the Society to place on record in its official publication the expression of esteem and affectionate regard in which Miss Harrison, Mr. Callow and Mr. Carl Haag are held by their fellow members." As the Society was founded on November 30, 1804, the centenary is not yet reached. The first exhibition was opened in 1805 in Lower Brook Street, when 275 drawings were hung. It was visited by 12,000 people, and the sales amounted to 2,860*l.* In the second year's exhibition the sales fell to 2,595*l.* The original members were Hills, Pyne, Shelley, Wells, Nattes, Gilpin, Nicholson, Pocock, and the Brothers John and Cornelius Varley. Afterwards Barret, Cristall, Glover, Havell, Holworthy and Rigaud were elected by ballot. Gilpin became chairman, Shelley treasurer, and Hills was secretary. A new class of members, called fellow-exhibitors, was constituted prior to the second exhibition. In 1810 it was agreed that the number of members should be thirty-five. The success attained by the Society did not long continue. In 1812 the water colours appeared to be so little attractive, it was resolved that in the next exhibition paintings in oil-colours should also be admitted. Some of the members objected, and in consequence there were two parties in the Society. Owing to the differences it was decided, on the eighth anniversary of the first exhibition, that the Society was to be considered as dissolved. It was reconstructed in 1813 under the title of the Society of Painters in Oil and Water-Colours, and the exhibitions of the two classes of works continued till 1821, when the exhibition was again confined to water-colours.

The art has advanced since those days, and the drawings which were exhibited in the beginning of the century would appear to be inferior productions if compared with those to be seen in the present exhibition. The exhibitions of the Society have made it necessary that the original limits of the art should be overpassed, and consequently effects are attempted which in the first decade of the nineteenth century would be considered as only suitable to oil-colours.

The exhibition of 1900 begins with one of Mr. Hodson's architectural drawings, *The Oldest Part of the Bluecoat School*, an excellent example of his skill in representing buildings, but there are few visitors who will not be surprised when they see his large drawing, containing many figures, called *Public Supping at Christ's Hospital.* By refraining from a representation of the tables the menagerie character of the scene is avoided, for the drawing is mainly a record of those who sat on the daïs and witnessed the feeding. A difficult task was undertaken by Mr. Hodson, and he has succeeded better than could be anticipated. Mr. H. M. Marshall has varied his London street scenes with others from Amiens, Rouen, Enkhuizen, &c., and he even presents a Scotch landscape, *On the Banks of the Spey at Kingussie.* Mr. W. Callow has a fine view of Durham Cathedral from the opposite bank of the Wear, a point of view which always presents an effective prospect; but eight of his drawings are of Continental subjects and are produced with his old dexterity. Mr. R. Little shows much refinement in his *Vigil of St. Catherine of Siena*—a nun kneeling before an altar. The contrast between the simple dress of black and white and the richly embroidered frontal is well marked; the Gothic chapel serves as a suitable background. It is a subject that no early member of the Society would have had the courage to attempt. No less charming in spirit is his *Intermezzo*—a modern and very bright room, with a child attempting to play on a piano between her mother's performances. For such subjects water-colours appear particularly suitable. An earl in 1804 would not be ambitious to appear as an exhibitor, but the Earl of Carlisle's version of *Sister Anne* is far above the amateurish level. His lordship has also a view of *Holy Island* and the grim *Grenfell's Tombs, Assuam.* Mr. Collingwood has been again successful in his scenes from the Alps. Mr. Albert Goodwin has no imaginative work this year, but his versatility is displayed by the variety of the drawings he sends. *Lincoln*, *The Bristol Docks*, *Rye*, are contrasted with Egyptian scenes and two excellent drawings of Berne. Mr. T. M. Rooke has another series of parts of French cathedrals drawn in his usual brilliant style, but, ingenious and richly coloured as is his *Phyllis*, we doubt if it will be as pleasing as his buildings. Sir E. J. Poynter's drawing, *Helena and Hermia*, shows the two Athenian girls from the "Midsummer Night's Dream" seated on a Classic bench. The whole drawing is finished with the elaborateness which has become more marked since the artist's assumption of the presidential office. Sark is coming into favour as a painting ground. Mr. Hardwick's *The Coupée* represents a part of the rocky coast with great care, but more effect would have been gained if he were less painstaking. Mr. Carl Haag shows a drawing of the *Amphitheatre of Herodius Atticus* and *The Olympeium of Athens*, which is interesting both from the subject and as a contrast with his Eastern work. There are so many drawings of architecture this year in the room, it may be concluded that class of subjects is coming into favour. Mr. Haag's most characteristic work is *The Sheik Aghile Agha*, drawn in 1862, a chief so pleasing in appearance he might serve as a model for an Othello. *The Guard of the Camp*, by Mr. Clarence Whaite, is a departure from his usual subjects, for it represents a gipsy camp left in the charge of a dog. Mr. Clausen's *Gleaners* shows two children rather than the old women who are usually selected; it might be taken on the moment in the fields, for there is nothing stereotyped in the pose of either figure. Mr. Waterlow has four drawings, one being a farm in Provence; the remainder are English scenes. As they are not hung far apart they can be compared without difficulty. As suggesting the fertility of nature *Weston Mill* is the most successful. Mr. Brewtnall's *La Vie de Bohème*, showing a pair of mountebanks and a performing dog traversing a snow-covered country, is one of those pictures which all can appreciate. The contrasts are necessarily strong, but they are not discordant, and the drawing should be popular. Mr. Walter Field has made the upper reaches of London's river his own, and his *Sonning-on-Thames* is one of the most successful of the series. The placid water and the verdant meadows are characteristic, and unlike what can be found in any other part of the country.

The exhibition this summer may not be unusually interesting or remarkable. The members, we suppose, are waiting to display their strength when the centenary arrives, but the majority of the drawings are evidence that the principles of the founders have not lost their entire power, and as very many of the lovers of water-colour art are those who have long memories, and find a pleasure in thinking of past performances, the Society has, therefore, grounds for support which are likely to be enduring.

ELECTRIC ARC LIGHTING FROM PUBLIC SUPPLY.

There has of late years been an extension in the use of arc lamps, due no doubt to their reduced first cost and increased reliability, also to the fact of the lower cost of electric lighting by incandescent than by arc lamps, which has always been admitted. For outside lighting the arc lamp attracts notice, and is consequently superior to the less conspicuous incandescent lamp for purposes of advertising. It is in small sizes that arc lamps lose their superiority, but even with arc lamps requiring a current of only 1½ amperes there is a very substantial advantage over the incandescent lamp.

In connection with this subject it may first be mentioned that some very important notes were given in a recent contribution on the subject to the Institution of Electrical Engineers, in which the following comparisons of efficiency of electric arc and incandescent lamps were mentioned as a result of tests:—

With an expenditure of ½ unit per hour the following illuminations (relative) were obtained:—

Open type arc lamp, 50 volts	100·0
Enclosed type arc lamp, 110 volts	47·5
Incandescent lamps, 16 candle-power	31·0
Enclosed type arc lamp, 250 volts	10·0

The arc lamp in its simplest form, which is also the most efficient, requires a pressure of 50 volts with a continuous current. With an alternating current it is simple to change the pressure of supply from 100 or 200 volts to 30 or 35 as required, but with a continuous current there is no simple or even efficient way of doing this. The result is that if only one arc lamp is required, and the pressure is 200 volts, 150 volts, or three-quarters, must be wasted in resistances, which are also expensive in first cost. It is therefore desirable for supply authorities to keep down the pressure of supply where arc lamps are likely to be used extensively. Enclosed arc lamps are now in use which take a pressure of 80 volts (on the arc), and may be run on 100-volt circuits, but they are undoubtedly less efficient than the open type arc. Arc lamps of the enclosed type are now also made for use direct on a 200-volt supply, but they are admitted to be uneconomical. The higher voltages now in use are, therefore, unfavourable to those who do not require to use more than two arc lamps, and it is found that, given equal prices for electricity, the cost of both incandescent and arc lighting is more with a high than a low voltage to the small consumer.

There are many other points to be borne in mind in the use of arc lamps. The placing of lamps, especially arc lamps, to obtain the best effect requires very careful consideration. The continuous-current open-type arc lamp throws practically no light above the horizon, *i.e.* the centre of light, and the light is a maximum usually at an angle of about 40 degs. with the horizontal with an open type lamp, and about 25 degs. with an enclosed type (100 volt) lamp, as will be seen from the table given below:—

Angle with the Horizontal (degrees).	Continuous Current.	
	Open Type. Candle-power.	Enclosed Type. Candle-power.
0	200	140
5	260	180
10	425	240
15	500	350
18	540	540
20	610	790
25	730	1,000
30	880	820
35	980	770
40	1,000	790
45	920	850
50	800	900
55	640	900
60	440	800

In the above table 1,000 is taken as the maximum candle-power in any direction.

Now it does not follow that if the angle 40 degs. from the horizontal is projected to the surface to be illuminated that the circle so produced around the lamp will be the best lighted portion. The amount of illumination on any surface is equal to the candle-power and inversely to the square of the distance, and also to the angle of the surface illuminated. It will be found that the enclosed type lamp gives more uniform illumination than the open type, as the candle-power is higher in proportion in the direction of the greatest distance of the surface.

Any space may be illuminated by adopting one of two courses, namely, by the use of high candle-power lamps placed a considerable distance apart, or by low candle-power lamps placed near together, but it must be remembered that by adopting the former course a uniform illumination cannot be obtained. Where a comparatively low average uniform illumination is required, powerful centres of light at long intervals will certainly fulfil the conditions, but some portions will be very brilliantly illuminated and others left dark, and the dark portions will appear to the eye even darker than is actually the case by the dazzling effect of the brighter portions.

If a low illumination is desired small current arc lamps must be placed fairly near together, but the cost of these lamps is as high as the large ones, and they require even more attention and careful trimming. The carbons of small arc lamps burn more rapidly than those for large ones, and for this reason again more attention is required. There are on the market some small current arc lamps of the open type which burn satisfactorily, but of course the above defects are inherent.

The enclosed arc lamp is, however, rapidly taking the place of the open type in places where the illumination required is not high, but where it is required to be fairly uniform. The enclosed lamp will burn for from 100 to 200 hours without retrimming, and is made in sizes as low as 2½ amperes at 100 volts, requiring energy equal to a 5-ampere open type arc taking 50 volts.

So far the continuous current arc lamp has alone been discussed. Alternating current lamps, it may be taken, are in all sizes and forms less efficient than the continuous current. Further, they throw as much light above the horizon as below it, and for that reason reflectors have to be used, and after taking into account their inefficiency, alternating arc lamps are about half as effective as the continuous current type. This relation appears to be fairly constant for all sizes of open and enclosed lamps. The great advantage, however, of the alternating lamp is that by the use of a small, inexpensive and efficient transformer it may be supplied with exactly the required voltage without waste. A consumer requiring one arc lamp supplied at 100 volts will find the alternating current as cheap as continuous, and one requiring an arc lamp with 200 volts supply will find the alternating half the cost of the continuous current, on account of its being impracticable in a small installation to use continuous current transformers, as they are inefficient and require a great amount of attention.

In the contribution before referred to the question of running arc lamps on 250-volt continuous-current mains was considered very thoroughly, but no satisfactory solution of the difficulty is found for small installations. For large numbers of lamps there is no doubt that the continuous-current transformer offers a very satisfactory means of economising power, and a very reasonable suggestion is made that the supply authorities should place their meters on the low voltage or arc circuit, and thus themselves bear the loss owing to the inefficiency of the transformer, rendered necessary because of the high voltage supplied (to suit their own convenience and economise in the cost of mains), but which is unsuitable for arc lamps. Unfortunately, it is not in the large installations that there is any great difficulty, as the lamps can be arranged in groups of five, burning direct across the mains, without any loss, the only inconvenience being that lamps must be turned on or off in groups of that number.

MR. JAMES MANSERGH, C.E.

It is with much gratification we are able to announce, says the *Lancaster Guardian*, that Mr. James Mansergh, of Westminster, and a native of Lancashire, has been elected President of the Institution of Civil Engineers, in succession to Sir Douglas Fox. Mr. Mansergh was elected an Associate of the Institution in 1859, and in 1873 was made a member. In 1884 he became a member of the council, and in 1895 a vice-president, and now, as intimated, has succeeded to the presidential chair, a position which is looked upon as the blue-ribbon of the engineering profession all over the world. In 1882 Mr. Mansergh read before the Institution a paper on the subject of "The Lancaster Waterworks Extension of 1876." The paper was printed in the "Minutes of Proceedings," accompanied by elaborately drawn maps and plans of the watershed and works, and drawings of the measuring apparatus and other features The paper is a highly elaborate one, giving a complete history and description of the works from their commencement. The fidelity and fulness of its details, and the completeness of the illustrative drawings which accompany it, make it of high value and interest.

It will not, we think, be inopportune if on this occasion we give some particulars of Mr. Mansergh's career. He was the second son of Mr. John Burkit Mansergh, who was for some years a member of the Lancaster Town Council, and a leader in many philanthropic movements in the district, his mother being, before her marriage, Miss E. Leahy, of Caton. He was born April 29, 1834, and received his early education from Mr. Willacy, who had his school in Bulk Street, and had amongst his scholars the late Sir Edward Frankland, K.C.B., Professor Atkinson and others. His next teacher was Mr. W. H. Scallan, who conducted a large school in the building in Cable Street, adjoining Water Street. Mr. Mansergh was next sent to Tulketh Hall, near Preston, and when in 1847 its principal, Mr. Edmonson, took the house at Queenwood, in Hampshire —which had been built in 1841 by the famous Robert Owen for his last socialistic experiment, and was then called Harmony Hall — Mr. Mansergh continued to be one of his pupils. Queenwood College was opened on August 3, 1847, and another pupil who entered on the same day was the late Professor Fawcett, M.P, for some time the Postmaster-General An extract from Fawcett's diary records that on August 18, 1847, "we elected the various college officers. J. Mansergh and I were elected without opposition editors of the *Queenwood Chronicle*." The late Professor Tyndall was at that time the mathematical and surveying master, and Sir Edward Frankland the teacher of chemistry. After leaving Queenwood Mr. Mansergh was apprenticed to Messrs. McKie & Lawson, Lancaster. Mr. Hugh McKie, who afterwards became the Carlisle city surveyor, was then resident engineer on the Little North-Western Railway, extending from Morecambe to Skipton, now the Midland, and Mr. John Lawson became soon after the resident engineer on the Lancaster Sewerage and Waterworks, the late Sir Robert Rawlinson being the engineer. Beside the above works the firm made some very extensive estate, boundary and Parliamentary surveys, in which work Mr. Mansergh took a large share.

In 1855 he went out to Brazil as one of the agents of the late Mr. Edward Price, who had the contract for the first section of the Don Pedro Segundo Railway, starting from Rio Janeiro into the interior, and was one of two who set out the line, a considerable part of which was through forest and swamp. He also took the levels of the second section up the Serra do Mar. Out of three companions in a similar position two died of yellow fever in the same week, and the third returned home invalided, Mr. Mansergh alone remaining out of the four agents until the completion of the line.

After returning to England in 1859 he spent some years as contractor and contractor's agent on sewerage and railway works, and in 1866 joined the late Mr. Lawson, in Westminster, who some years previously had succeeded to the business of Sir Robert Rawlinson.

From that time forward (Mr. Lawson dying in 1873) he has been very actively engaged on the sewering and supplying with water of many cities and towns in the United Kingdom (between sixty and seventy), and in Parliamentary, local government and arbitration work, and has been consulted on similar matters on the Continent of Europe and in North and South America, India and the British Colonies.

For the various schemes in connection with the Lancaster Waterworks Mr. Mansergh has been engineer for the Corporation. The large compensation reservoir at Abbeystead, as enlarged under the Act of 1876, and Damas Gill reservoir with the various attendant works were built under his direction. He has also acted as consulting engineer in regard to the Blea Tarn reservoir, now nearing completion. In negotiating the purchase of the undertaking of the gas company his services were of considerable advantage to the Corporation.

In 1876 Mr. Mansergh prepared the gravitation scheme of the Stockton and Middlesbrough Water Board, which was fought for forty-two days in the Commons and Lords as a competing Bill with that of the company, with the result that the latter was rejected, the former passed, and the first case of compulsory purchase of a water undertaking by a public authority went through the two Houses of Parliament.

In 1884 he visited the United States to report upon an important water scheme, and in 1889 he was commissioned by the Government of the colony of Victoria to devise a system of sewerage and sewage disposal for the metropolitan district of Melbourne. This district included twenty-three towns or shires, in addition to the city of Melbourne itself, and embraced an area of 133 square miles, or 12 miles more than the county of London. Seven different schemes were worked out in detail, and one of two which were recommended is now being carried out, the ultimate estimated cost being about six millions sterling. On this occasion he and his elder son travelled by way of New York and Canada across to San Francisco, down the Pacific to New Zealand and Sydney, and made the return journey round the world by way of the Indian Ocean and the Red Sea.

In the following year Mr. Mansergh was called in to advise the Corporation of Birmingham as to an extension of their works of water supply, the result being the passing of the Act of 1892, by which the Corporation obtained Parliamentary power over a watershed area of 71 square miles in the mountains of Radnorshire, about 80 miles west of the city. The works to be constructed consist of seven masonry dams forming six impounding reservoirs upon the rivers Elan and Claerwen, with a total storage capacity of over 18,000 million gallons, the highest dam being 135 feet above the bed of the river. The water will be conveyed to Birmingham by an aqueduct or conduit consisting of 37 miles of tunnel and cut-

and-cover work competent to convey 75 million gallons a day, and 38 miles of six lines of 42-inch iron and steel pipes for crossing valleys, two of which are now being laid for the first instalment of 27 million gallons a day. The water is to be delivered into a service reservoir holding 200 million gallons, situated near Frankley, about six miles from the centre of the city, and below this reservoir there is to be a very extensive range of filter beds.

In 1892 Mr. Mansergh was made a member of the Royal Commission appointed to consider the question of the supply of water to the Metropolis, of which Lord Balfour of Burleigh was chairman, which Commission, after sitting for forty-five days, and taking a very large body of evidence, reported to Her Majesty in September 1893.

In September 1895 Mr. Mansergh was requested by the municipality of Toronto, Canada West, to visit that city to advise them about their existing works by which water is pumped into the city from Lake Ontario, and upon a proposal to obtain a supply by gravitation from Lake Simcoe at a distance of nearly 50 miles. He accordingly went over to Canada with his younger son, informed himself fully on the whole question, and presented an exhaustive report in January 1896.

In December of the same year, by instructions from the Crown Agents for the Colonies, he visited Ceylon for the purpose of inquiring into the sanitary condition of the important city of Colombo, and made a report upon a complete system of sewerage and sewage disposal to cost over 700,000*l.*

In the autumn of 1898 he was invited by the Burgomaster of Budapest to be one of a small Commission of German and Hungarian engineers and professors, to inspect and report upon the waterworks of that beautiful city, about the engineering of which there was at the time considerable discussion, the result of the Commission's labours being the quelling of the agitation and the restoring of confidence all round.

Mr. Mansergh has had great experience as a witness before Parliamentary committees and is much sought after in this capacity, and has a large practice as arbitrator or umpire, especially in connection with the transfer of gas and water undertakings from companies to public authorities. He has lectured on more than one occasion for the Sanitary Institution of Great Britain, for the Carpenters' Company, and in March last year delivered a "Friday evening discourse" at the Royal Institution.

Mr. Mansergh has now associated with him his two sons, Mr. Ernest Lawson Mansergh and Mr. Walter Leahy Mansergh.

NORFOLK AND NORWICH ARCHÆOLOGICAL SOCIETY.

THE annual general meeting of the local Archæological Society was held on the 25th ult. at Norwich. The proceedings opened in the Council Chamber of the Guildhall, where a large number of members met under the chairmanship of General Bulwer, in the absence in London, through illness, of the president (Sir Francis Boileau).

The annual report was read by the hon. secretary (Mr. Leonard G. Bolingbroke).

The annual statement of accounts having been presented by Dr Bensly, the treasurer, Capt. King, R.N., moved, and Mr. Bosworth Harcourt seconded, their adoption, which was agreed to.

Mr. Simms Reeve, in proposing the re-election of Sir Francis Boileau as president of the Society, remarked that the fact that Sir Francis had filled the office so admirably in the past was the best guarantee that he would do the same in the future.

Mr. Hamon le Strange seconded, and expressed the hope that he might be with them at their next and many future meetings.

The re-election of the other officials was then proceeded with—the committee, hon. secretary (Mr. L. G. Bolingbroke), corresponding secretary (Rev. W. M. Hudson), hon. treasurer (Dr. Bensly), and auditor (Mr. P. Back).

The Rev. H. J. D. Astley, of West Rudham, then gave an interesting paper, compiled, however, chiefly in the form of notes based upon two oldest registers of the parish of Syderstone, after which the members separated for luncheon, and subsequently met at St. Gregory's Church.

This church is one that has, time and often, provided the archæologist with abundant matter for discussion. The Rev. J. W. Hoste, who had undertaken to speak of the past history and antiquities of the church, had therefore to traverse much ground that has already been broken on the occasion of previous visits Speaking of the age of the building, he hinted at the possibility of St. Gregory's being one of the fifty churches and chapels in the city at the time of the Domesday Survey. The church was remarkable for many curious features, among them being the small Galilee which leads into a kind of antechapel beneath the tower, whose Perpendicular groining supports the singers' gallery above. Adjacent to this and to the Galilee on the north was the chapel of the Assumption of the Blessed Virgin, in which, before the Reformation, lights were constantly burning, and in which Mass was celebrated. It was now used as a choir vestry. The roof at the south porch was adorned with curious bosses, one of which is said to represent St. Gregory instructing a class, and another to depict a martyr being led to execution. To the outside of the south door leading from this porch into the church was attached the well-known sanctuary knocker, now removed for greater safety to the door of the clergy vestry on the south of the choir. In the parvise or chamber above the porch watch was kept in order that fugitives from private vengeance or uneven justice might be at once admitted. Mention was frequently made of sanctuary being thus taken in parochial churches, and instances were on record in the case of St. Simon's, St. Matthew's and St. George's Tombland in the city. The cathedral had its sanctuary chamber, but St. Gregory's was believed to have been a more frequent refuge than any other church in Norwich. At Durham Cathedral, where the sanctuary knocker was still preserved, as soon as a fugitive was admitted the Galilee bell was tolled, and such might have been the case at St. Gregory's. The scutcheon represented the head of a lion, from the jaws of which issued a human face, in reference probably to the prayer of the Psalmist, "O Lord, make haste to help me, save me from the lion's mouth." It was not possible now to say what might have been the character of the mural decorations which formerly adorned the church, but one sumptuous and elaborate painting had been revealed to view. It was renewed during the restoration in 1861. This was still to be seen on the west wall of the south aisle. It represented the conflict of St. George with the Dragon, the principal figures being life-size. The name of the donor was written in church text at the foot of this remarkable fresco, but only the words "Pray for the soul" could be deciphered when it was uncovered. The costume and other indications were believed to point to the year 1460 or thereabouts as the date of its execution. In none of the ornaments of the church did the parishioners seem to have taken more pride than in the brazen eagle still used as a lectern. It was 6 feet in height, and was a memorial of William Westbrook and Rose and Johanne, his wives, for the souls of whom the prayers of the faithful were desired. It bore date 1493. The scouring of the eagle was constantly mentioned in the parish accounts. In the course of much other interesting matter, Mr. Hoste dealt in detail with the monuments of the church and the communion plate, the topography of the parish, and L'Estrange's transcript of the churchwardens' accounts, from which he quoted some very curious entries.

St. John's Maddermarket, the next stopping-place of the visitors, was described very briefly by the rector, the Rev. W. Busby, who confined his observations to the most characteristic features of the church. As it now exists, he said it dates from the middle of the fifteenth century, and from the similarity of its roof to that of St. Peter Mancroft and from various other resemblances he was led to conclude that the architect who built the one church was responsible also for the other. After the ceiling paintings the most important thing in the church was its monumental brasses. Of these a fine series of rubbings was shown, some of them by the late Mr. W. F. Creeny. Mr. Busby went on to quote some curious and interesting extracts from the churchwardens' accounts, beginning with the year 1567. Remarking that there was no proof of the church ever having a chancel, he said he would be glad if the Society could help to answer the question whether it was possible that the church originally had no chancel, but only a nave and a tower. Surely at that day a church would not have been built without a chancel, and so out of proportion that it was about as broad as it was long.

Strangers' Hall was the last meeting-place of the members. The property, as is well known, was purchased by Mr. L. G. Bolingbroke, the Society's hon. secretary, as a private venture, and under his care the place has been suitably restored and adapted as one of the show places of the city. After the reading of an admirable sketch of the history of the building by Mr. Bolingbroke, the visitors were invited to roam at will through the premises, and, after their perambulations, tea was served in one of the larger apartments. With this the day's proceedings concluded.

The Art Union of London has obtained fewer subscriptions than in previous years. The sum of 1,380*l.* has been, however, devoted to engraving. Next year's plate will be *The Meadow Pool*, after Mr. Clayton Adams. The production of the plate was originally entrusted to Mr. David Law, but owing to his serious illness its completion has been confided to Mr. C. O. Murray.

NOTES AND COMMENTS.

THE collection of drawings by Sir JOHN TENNIEL, now on exhibition, refers to incidents of the last four or five years. The reproductions in *Punch* accordingly take away the novelty from the originals, which is a desirable quality in all exhibitions. There are one hundred and sixty drawings, and they exemplify the designer's matchless skill in expressing the ideas which were paramount when they were produced. In many cases experience has proved the wisdom which was shown in the suggestions. When, for instance, we see Mr. CHAMBERLAIN assuming the rôle of ARIEL, apropos of the Workmen's Compensation Bill, we must recall the difficulties of the Courts at a later time to bring method into that unfortunate measure, and which at least are comparable to the tortures inflicted by the "tricksy sprite" on some of the castaways on PROSPERO's island. From the character of the reproductions it might be supposed that Sir JOHN TENNIEL drew with a pen, but all the drawings are in pencil. As specimens of draughtsmanship it would be difficult to find rivals to them. Although primarily intended for the gratification of a moment, they have more reason to be considered as monumental works or examples of high art than many paintings on a large scale. Foreigners must wonder why an artist who is equally admirable with single typical figures, or with groups of many figures, should not be employed in the decoration of buildings, for so unusual an amount of inventive power ought to be exercised on a different material than paper. It would increase their wonder if they knew that Sir JOHN TENNIEL's *St. Cecilia* in the Houses of Parliament was not only a more perfect specimen of wall-painting than many of the ambitious paintings near it, but has outlasted them, as it was for years the only example which seemed capable to defy time and the air, which at Westminster undergoes so many operations.

IT is rather early to begin the demolition of a part of the Paris Exhibition, but that course has been rendered necessary. The guiding spirits of France wished to demonstrate to all the world that the country possessed remote dependencies. Accordingly it was decided to suggest the interest of the French East Indies by constructing a pagoda, a village and a Hindoo theatre. The village was to consist of shops for which, if possible, dusky natives were to be provided as temporary occupants. There are a great many people in Paris who would be quite willing to become Indians or representatives of any other race on such an occasion, and accordingly Paris shopkeepers paid from 100*l.* to 300*l.*, it is said, in order to appear as inhabitants of the Indian village. In fact, it is believed the shops were let several times. The Colonial Commissioner on making his rounds was surprised by the novel appearance of the Franco-Indian merchants. An inquiry followed, and it was found that many circumstances had taken place which were not in conformity with the official regulations of the Exhibition. One of the consequences was that various shops and kiosques had to be demolished, and others will follow. To what use the site of the palace and pagoda and other Indian buildings will be devoted has yet to be discovered. There are so many organisations connected with the Exhibition it is becoming difficult to fix their respective liabilities, and on that account it may be doubted whether the Parisian Hindoos will be able to get back the money which they have fruitlessly expended.

THE Americans look to France for guidance in whatever relates to art, and when the great memorial bridge over the Potomac at Washington was proposed, the French system of insisting on a co-operation of engineers with architects in preparing the competition designs was adopted. The following engineers were invited, and we give in parentheses the names of the architects who agreed to become associated with them:—Mr. J. L. BUCK (Mr. WILLIAM H. BREITHAUPT, Messrs. CARRERE & HASTINGS and Messrs. WALKER & MORRIS), Professor W. H. BURR (Mr. E. P. CASEY), Mr. W. R. HUTTON (Mr. E. FLAGG), Mr. G. S. MORISON (Mr. WILLIAM EMERSON and Mr. W. F. SMITH). The prizes were not liberal, for they were only—first 1,200 dols., second 1,100 dols., third 1,000 dols., and fourth 900 dols. The judges consisted of three military engineers, viz. Colonel ALLEN, Major SYMONS and Captain GAILLARD, with Mr. STANFORD WHITE of New York and Mr. J. G. HILL of Washington. The first prize was awarded to Professor BURR, the second to Mr. HUTTON, the third to Mr. BUCK and the fourth to Mr. MORISON. It was recommended that Professor BURR's design should be adopted, subject to certain modifications in the width, inclination of roadway, towers, and to others which experience might suggest during the progress of the works. The estimated cost is about 4,860,000 dols. It was one of the conditions that an opening span should be provided in the centre for the navigation. Professor BURR adopted the bascule principle, and the towers were designed as triumphal arches, crowned with bronze quadrigas driven by Victories. Sculpture is proposed to be largely employed, and a series of statues is proposed to be placed upon the stone balustrades. Along the arched approaches, the bridge will externally appear to be constructed of granite, but in the interior concrete and steel are employed. The arches over the river will be of steel. The Board of Award, while objecting to the use of concealed steel or iron that would require periodical painting or other process for its preservation, say that steel well embedded in hydraulic cement concrete or properly coated with it is practically imperishable. The competition has produced interesting results, and if the accepted design is carried out in its entirety the Potomac will be crossed by a structure that, while useful, will be a worthy "Memorial of American Patriotism."

ILLUSTRATIONS.

WESTMINSTER ABBEY: TOMBS IN SACRARIUM. GATEWAY TO CHAPTER-HOUSE. EAST CLOISTERS.

IT cannot be supposed that in Mediæval times people who were able to obtain sites for tombs in churches were less ostentatious than those of a later period. The tombs which were "to grace them in the disgrace of death" were often only testimonies to vanity, but they were regulated by a spirit of respect for the building which was to contain them. When AYMER DE VALENCE contrived to obtain the privilege of erecting a tomb for himself on the north side of the sacrarium at Westminster Abbey he might be supposed to have gained a victory, for there is little doubt there were other applications for the position. BROWNING's Bishop admits that he was cozened by "old GANDOLPH," but still he was satisfied in securing a niche from where the epistle side of the altar and somewhat of the choir could be visible. AYMER DE VALENCE's tomb was in a more desirable position, for there was a much better view of the altar. Near AYMER's head rests AVELINE, Countess of Lancaster, and in front of him EDWARD, Earl of Lancaster. But in the three tombs there is sufficient resemblance to suggest there is a relation between them, and the elaborate carving does not clash with the more severe and nobler work in the Abbey. The contrast between this subserviency to the building and the license of a later period is suggested by the neighbouring eighteenth-century tomb of Lord LIGONIER, with its curtains, trees and weapons. JOHN FLAXMAN has testified to the beauty of the fourteenth-century monuments shown in the illustration. He said:—"The monuments of AYMER DE VALENCE, Earl of PEMBROKE and EDMUND CROUCHBACK in Westminster Abbey are specimens of the magnificence of such works in that age; the loftiness of the work, the number of arches and pinnacles, the lightness of the spires, the richness and profusion of foliage and crockets, the solemn repose of the principal statue, representing the deceased in his last prayer for mercy to the Throne of Grace, the delicacy of thought in the group of angels bearing the soul, and the tender sentiment of concern variously expressed in the relations, ranged in order round the basement, forcibly arrest the attention and carry the thoughts not only to other ages, but other states of existence." The tombs were originally brilliant with colour, but the vestiges remaining are only slight. The Lady AVELINE died in 1272; four years afterwards her husband EDMUND passed away. AYMER DE VALENCE was assassinated in 1323.

THE FEATHERS, KING STREET, ST. JAMES'S.

NEWINGTON PUBLIC LIBRARY.

L.C.C. WEIGHTS AND MEASURES OFFICE, CALVERT AVENUE, SHOREDITCH.

SHOREDITCH FREE LIBRARY, HOXTON.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. G. H. Fellowes Prynne, president, in the chair.

The Hon. Secretary announced that the Annual Soirée (smoking) would take place at St. George's Hall, Langham Place, W., on Thursday, May 10, at 8 P.M., when a musical play would be performed—"The Mayor of Montilado: a Spanish Romance," written by Mr. F. D. Clapham; music by Mr. Leonard Butler. A ladies' night (dress rehearsal) is to be given on May 9 at 8 P.M.

The President said the first meeting of the water-colour class would be on May 12. There are to be eight meetings in all—two indoor and the remaining six outdoor. On account of the continued ill-health of Mr. A. W. Weedon, the instructor, it has been necessary to appoint Mr. P. L. Forbes as his successor.

The President announced that the annual dinner would be held on Thursday, May 31, at the Criterion Restaurant, Piccadilly.

Mr. J. D. Crace read the following paper on

Colour Decoration.

When so large a subject has to be dealt with in so short a time, it is necessary to select some one section or principle to which particular attention may be called, and in looking round to make such selection I find one upon which I have often laid stress before, and which cannot be too often insisted on with regard to decoration. I mean its subservient relation to architecture; its duty of respect to the architecture it is to adorn.

Let us for a time put aside the average dwelling-room with no features that can be classed as architecture. Colour can do much for it—can give it character, can give it proportion, and can make it lovely or unlovely; but the result after all is a matter which concerns only the owner and the decorator. They can try what experiments they are inclined to, or what fads they fancy, and they do no man wrong. If the result pleases their friends they have their reward, and if it does not they will be satisfied that this is due to want of culture in their friends

But it is quite another matter if the building under treatment has other than domestic functions, or has received from its author some definite architectural expression; that is to say, bears some stamp of another man's thought.

When this is the case, it becomes the decorator's business to study that evidence of thought and to endeavour to enhance its value In pursuit of this intention, he has first to try to ascertain what lines or what features are really of the first importance in expressing structure and proportion. If he can find these, he must never lose sight of them, for these are the features or lines with which nothing else must interfere.

However varied or however rich the decorative detail of the whole may be, the final result of the coloured decoration of architecture should be lucidity of expression, and this is only to be obtained by allowing the due proportion of expression to each feature which has a place in the ideal scheme of structure. If such expression is really in due proportion, repose—that great element of beauty in all art, but most of all in architecture—is produced. For what is it that produces "repose" in art? It is the immediate satisfying of the mind's instinctive search for something, and in architecture that something is stability Now, this stability which the eye and mind demand is not one of which scientific or practical evidence need necessarily be forthcoming. It is that of which an instantaneous conviction is borne to the mind by the continuity of suggested lines of strength in reasonable proportion to each other. And it is these lines of suggested strength which colour may do so much to explain or to confuse. Nor is the explanation altogether so simple a matter. It is as harmful to over-accentuate any of them as to confuse them. The expression of each part must be relative. To exceed the due proportion of expression in any part is to disturb the balance. Blatant expression in colour is like shouting one's own language in the ear of a foreigner; it does not make things clear, and probably gives offence.

Another point which it is desirable to mention, because it is the subject of frequent misconception, is that lucidity of expression does not depend on the use or omission of detail. The most elaborate and delicate detail is compatible with perfect lucidity

The one necessary thing in using ornamental detail is to take care that it does not interfere with the main scheme. Used with proper skill and knowledge, it should be able to assist materially in its development. On the one hand, it should assist to explain surface or to accentuate line; on the other, it is invaluable as a means of lowering tone and softening effect, without sacrificing purity of the individual colours. Further, it facilitates harmony by giving the opportunity of small "recalls" of colour—of importing, as it were, fragments of one colour into the field of another—one of the most essential conditions of complete success in harmony. This should be carefully noticed by students in examining the pictures of the best masters.

I have said just now that it is the first function of colour, when used in architecture, to assist in producing that "repose" which results from an instantaneous impression of stability. This means that the eye must be encouraged to recognise at a glance such features and proportions as indicate or suggest well-balanced structure, whether that be expressed in the architecture or not; for it must, and in fact does, often happen that structure is not outwardly expressed—at any rate, not to the extent that allows instantaneous conviction of its sufficiency. A flat ceiling is one example. In such cases colour steps in and suggests constructive lines of some sort, which, though they have possibly no relation to the actual invisible structure, suffice to satisfy the eye in a moment as to the balance and stability of the surface, on which it must otherwise have hesitated in doubt. Moreover, lines of some kind are indispensable to assist the eye and mind to travel over the surface of the building, and whether by mouldings or by colour, it is the disposition of these lines upon which depends the impression of "repose." If simple and suggesting the relation of one part to another, the eye grasps the meaning quickly and is at rest.

But if the lines expressed (whether by mouldings or colours) are inconsequent, purposeless and without proportion, the eye becomes puzzled, restless and dissatisfied. The eye demands a clear path, not a broken wilderness.

To touch on another branch of decoration, and a most important one—the use of pictorial art in connection with architecture.

We are accustomed to hear the most transcendental talk over the idealism or symbolism of the subjects to be painted in this or that building. I am far from underrating the value of this quality in art. What I want to point out is that it is the building, as a whole, if it be a worthy building, which first has to be considered; and that it is the form, the tone and the treatment or style that affect the building, and not the "subject." For the harmony of the building it would not matter a jot whether the subject were "Cupid and Psyche" or "Moses in the Bulrushes."

But it may ruin the whole effect if the picture is in a badly proportioned panel, painted in too cold a key, or executed in a style too crude or too complicated for its surroundings. Not one in fifty of even very able English painters has been trained to look at art from this side, or to consider the necessity of keeping the whole tone of his own work in relation to the decorative result in the whole building. Look at the paintings in the Royal Exchange. Not one, or perhaps but one, is in tone with its surroundings, nor any two in tone with each other. I regret this the more because I first suggested, in a report to the Gresham Committee dated October 9, 1890, that these panels should be painted historically.

Undoubtedly painting in the studio instead of on the wall itself tends to enlarge the risk of want of harmony with the whole surroundings, though it certainly presents some advantages. To take one disadvantage alone, the difference of light. This is almost certain to be different in degree and quality, and more than likely to differ in direction. This being the case, there is only too much probability of a general difference of tone between the picture and its surroundings when finally brought together. Even the design or cartoon of the picture—colour apart—will often need some change, when tried on the spot, from what seemed satisfactory when viewed in the studio.

The coloured bands or margins, which in coloured decoration are so valuable, are more than ever useful when pictorial treatment is adopted in the panels. They afford the means of connecting the more forcible colouring of the picture panels with the rest of the work, and so preventing them from appearing as detached patches.

Apart from this function, they greatly facilitate and direct the passage of the spectator's eye over the whole work, and aid that prompt grasp of form and surface which I have already spoken of as inducing the sense of repose.

The matters which I have mentioned are practically "axioms," which are absolutely independent of style or fashion. The building may be ecclesiastical or secular, Classic or Gothic, simple or elaborate; it matters not. The general principles which should guide decoration are true for all.

And it is this main point which it seems useful now to insist upon, because we find so many persons ready to substitute particular arrangements of colour or pattern for any real knowledge of art or principles.

Be sure of this, that just as sound principles are independent of style or fashion, of any special harmonies of colour or of any character of design, so no design, no arrangement of colour, no excellence of skill can really enhance the value of the architect's work if the decorator does not carefully think out and follow those immutable principles which, whilst they allow of an infinite variety of treatment, have for their base the expression of the repose and stability of the architecture.

II.

Mr. Gerald Moira contributed a second paper.

Decoration, he said, is a thing about which everybody from the very earliest period has had something to say, and therefore, as there is nothing new under the sun, I am afraid nothing new will come from me; but, as you have kindly asked me to speak on this subject, I will endeavour to give you my ideas. There are one or two points I would like to put forward, especially about outside decoration, and more so about outside colour decoration, about which I feel very strongly.

Firstly, let us take the Greek work. I do not think it is necessary to go further back. Take the Parthenon, for instance; it was a great marble edifice. Now, the frieze round the building was in low relief and, I think I am right in saying, was coloured, was it not? And I fancy the capitals of the columns were also coloured or gilded, and that colour as an enrichment was, no doubt, used on other parts of the external ornament. If I knew more about the building, or as much as some of us present, I could tell you exactly what parts were coloured, but that is not what I want to point out at present. What I want to point out and what we want to know is, Was the result when new a success? I say when new, as we all know what a delightful painter Old Time was and always will be. Well, was the result a success when new? I think it must have been, and principally why I think so is because of the glorious climate and perpetual sunshine, and that perpetual sunshine and clear atmosphere wants colour. You may be surprised to hear me say this, but I feel I am right. Why? Because the shadows are so cold, the sunlight so dazzlingly white that there is practically nothing of variety of colour in the noonday heat. As we all know, it is only when we feel hot in the sunshine that we know it is hot; by that I mean the more dazzling the sun the more deadly white the building becomes and the more uncompromisingly blue the shadows are; the sky one expanse of pitiless azure, the trees in the landscape one uniform blackish green, and even the earth a parched grey monotony. Well, all this is cold in colour, is it not? and the old Greeks took this into consideration and recognised it, and I am certain that is why they put colour on their buildings. Do not think I am running down the sunshine; I am only trying to point out that where there is no cloud (and therefore scarcely any atmosphere) the less colour the landscape has. That is my reason for believing that these buildings required colour. If we come a little further north we see less colour on buildings, and when we do see it it is not quite successful. The reason, because nature has more colour in it, and therefore a white building with a zinc roof comes as a relief. In the latitudes that embrace the greater part of Northern Europe we do not find so much colour outside buildings; but, again, higher up towards the Arctic, your coloured wooden reliefs have been and I believe are still used. This is no doubt for the same reason, only in this case it is the perpetual snow that requires relief. In Mediæval Italy, Spain, Portugal, Southern France and even Southern Germany, we find a great deal of colour, especially in Italy and the Peninsula. I attribute this to the Church as much as to the sun. The reason I do so is because the Roman Catholic Church has so many holidays and feast days. On those days the people come out in their best garments, and these best garments were always bright, nay, brilliant in colour, and then the art world of the day found that grey and white buildings did not suit so much bright colour; they wanted a note of it somewhere, and it was this that led to such buildings as Venice possesses, and to some in Spain and Portugal that one could no doubt name. Even in the present day the people of those countries do not look amiss, because they are still in a great measure a holiday-making people in an everlasting sunshine. We in workaday England do not get much sun and precious few holidays, and therefore do very little else but work. Our wearing apparel naturally becomes a neutral tint, and as such we could not stand our buildings being highly coloured; they would be out of key. It is the commonplace things that have their effect even on art. It is the man's mode of living that rules his household, and a nation's mode of life that rules everything around it, and it is necessity that rules the world. Had I said this in the beginning I need not have troubled you all this time. These are my ideas why colour was used on the outside of buildings. The inside is different, and is therefore more uniform all over the world; that is, the same amount of colour and same treatment can be used in the north as in the south. Of course, one finds places that ought to have been decorated left undecorated, and *vice versâ*; but this sort of thing is sometimes unavoidable. Take a church, for instance, that has been decorated in this period and in that from time to time. It looks well—at least, it hangs together. I believe it is dirt that does it, because it is the most dangerous thing to put a new painting or mosaic in an old building, because they are seldom in tone. The former has the best chance, as it will go down, but will not look well for at least half a century. The latter, like all materials that have a glazed surface, has no chance in a stone building, old or new, and therefore ought not to be used. It will remain blatant and bright for hundreds of years when the stonework around it is becoming yearly more toned down and mellowed. When we see an old church abroad that perhaps may have had the roof painted some hundred or so years after it was built, the man who painted the roof made no attempt to keep his work in the same style as the architecture, but to-day it looks well, taking for granted that the man who painted it was an artist. Now that brings us to two questions: the first is, "What is style?" the second, "Do we work for to-day or for the time to come?" Firstly, to my mind too much is thought and said about style to-day. An architect comes to the painter and says, "I have a Gothic building, and want some Gothic decoration for such and such a part." Now that seems to me ridiculous; to start with, I don't believe the building is Gothic. We live in the twentieth century, and when Gothic art flourished railway trains and quick-firing guns and a thousand and one other things did not exist, and all these things help to influence the Gothic building of to-day. It may be exactly right in proportion even down to the very smallest moulding, but it won't have the spirit of the Gothic times. This is not quite the architect's fault, though perhaps he ought not to have tried it; the fault lies as much with the men he is obliged to employ—the stonemason and so on, who only work with their hands, and whose one idea is either the dinner-bell or the bell for knocking off work. And it is the influence of the present-day times that prevents an architect being able to procure from the painter a Gothic decoration. The painter may be able to paint knights on horseback and saints in a way that perhaps to-day look Mediæval, but in fifty or eighty years' time they will say, "There is one of those queer things painted at the end of the last century, which in those days was supposed to be quite Mediæval," and to us now what was built sixty years ago and looked upon as pure Gothic, to-day we call it Early Wesleyan or Victoria and Albert, and there is every reason that in another sixty years to-day's Gothic will be put down to to-day. So to my mind it makes very little difference in painting a decoration for the said Gothic building whether you dress your figures in the costume of the Gothic period or in the clothes of to-day. In fact, to-day's garments would be more honest and more in keeping with the whole, and if such a work be done by an artist it will keep its place and will look well for ever. The last words answer the second question. I have only said Gothic for the sake of a name.

I have just returned from Paris, and while there I went to see most of their public buildings that have been so lavishly decorated with great frescoes within the last thirty years, and I came still more to the conclusion that they have had one great decorator, Puvis de Chavannes. He was a man who thoroughly understood that his decoration was to be part of the building it was to be placed in, and he always regarded the wall he was dealing with as the flat surface it is, and in this way preserved the architectural features and the proportions of the buildings, and these are the points that go to make a great decorative artist. The rest of the men who have covered large walls in such buildings as the Panthéon and the Hôtel de Ville have had nothing else in their minds, it seems, but to do a tour de force, a thing that in some instances it is impossible to be in the same room with. One I remember very well; it was a ceiling with rolling clouds and blue sky, on which some cavaliers and ladies are dancing a minuet or something of the sort. To begin with, I should say it would be a most uncomfortable thing to dance on, leaving alone that it entirely throws the proportion of the room out, as it makes the ceiling an indefinite height. This is the style of work that makes architects very chary of giving decorative work, and goes to show that a man may be a very good portrait-painter or landscape man, who has no idea of the qualities that go to make a decorator.

There also seems to me to be a common misunderstanding as to what is true decorative painting. The art of painting embraces three distinct styles—firstly, the purely pictorial or the representation of nature in colour—realism; secondly, the decorative picture, and lastly, decoration pure and simple. We need not deal with the first or realistic style, but we should arrive at a definite comprehension of the difference between the two latter forms of painting, for it is owing to this lack of understanding that much so-called decoration at the present time fails in its intention. A picture is complete in itself, and has nothing whatever to do with its surroundings. This is proven by the fact that it is possible, with no worse effect than a bad headache, for one to go to an exhibition where are jumbled together some hundreds of pictures, each having not the slightest relation to each other, but no one has ever suggested that such treatment of a wall as employed, say at the Royal Academy, is a successful form of decoration. It is necessary for one to lay stress on this point to prove what I wish. The decorative picture, however good in itself, remains always a picture. And, as if by instinct, the artist feels himself when painting it more trammelled than he ought to be when engaged in decorative art. He takes, perhaps, an historical scene, and treats it in however peculiar a way he may feel. He may be a Burne-Jones, Rossetti, Ford Madox Brown, Leighton, or any similar stylist, but the mere fact of his having to deal with a piece of canvas having no ultimate relation to any particular site, also instinctive conventions, be he conscious of them or not, will cramp his power and for ever prevent his creating other than a decoratively pictorial effect, however fine in its way. It is hardly possible for a picture-painter to break these bounds try as he may (the only notable instances are perhaps the finest Japanese prints), and this shows that a picture can never be successfully hung except on an easel, apart from anything else, and not placed to ornament a wall which it was never designed to decorate. A true decoration should be absolutely a decoration and nothing else. That is to say, it should be the most appropriate enrichment of the space requiring it. This is what I meant when I said what I have of Puvis de Chavannes's work. Hence it is agreed that in method as well as in intention there should be little or nothing in common between the picture and the applied decoration. The best realism is that which, amongst other things, suggests atmosphere. In mural decoration the absence of any sense of atmosphere is its finest quality. There should be neither atmosphere nor any forced perspective to mar the effect of flatness, which should be the first aim. The wall is a constructional flat plane, and nothing should be done on it which will create an illusion that it is not flat One has seen decorations painted on walls which give the idea that the painter had objected to the wall and desired that the weight overhead should be supported by a hole, through which one saw some scene or landscape, and this error was found by the analytical eye to be more or less entirely due to the introduction of atmospheric and perspective effects in the painting Such work could never be accepted as true decoration, and the bare wall in these cases would better satisfy the eye of any one who had the slightest education in architecture and its demands than any such painting, however clever in paint technique or strong in colour and subject. The Sistine Chapel painting by Michel Angelo, certainly one of the finest accepted works of its kind, loses greatly, to my mind, by the introduction of violent perspectives and shadows which destroy the flatness of the spaces and cast a blemish on otherwise perfect work.

The decorative painter should find himself less trammelled than in any other branch of the art, yet one seldom finds that the opportunities afforded are made use of or even realised at all. He has, of course, certain rules and conditions to conform to, such as uniform scale, &c., but in the main he is a free agent. While he should conform to the laws of nature, he is not bound by nature in the photographic sense. The old sculptors and painters went to nature for their foliage, and yet each one in translation impressed his own individuality to a very marked extent, so that we find a large number of carvings and decorations by different men, say of the vine-leaf, yet while each one is totally different in treatment to the next, they are all undoubtedly vine-leaves. And here let me remark that in every case the spirit of the age—the date of the work—is indelibly marked. So it should be now and in the future. The decoration, no matter what subject or however treated, should be contemporary in feeling. It is quite a false idea to imagine the twentieth-century artist can possibly feel and work with the intention of the fifteenth-century painter. We live under entirely different conditions, and we must work in sincerity to our feelings if we wish to do honest and convincing work. I hope I have expressed my meaning by the few limitations only which are set to the decorative painter. For the rest, he has an entirely free hand to evolve beautiful shapes and use the richest schemes of colour, while his choice of subjects is seldom limited by conditions which render them impossible for the pictorial painter to translate into paint A good design, first of all, should be the object of the decorator fine line, happy placing, big masses and equally fine empty spaces Then the treatment of his figures, draperies and accessories with beautiful outlines ; for outlines form one of the chief difficulties, and are one of the most important features in decoration. The realist may lose an outline here and there to a mere impression, but the decorative painter has to deal with hard-and-fast lines, which the absence of atmosphere insists on It is in this respect that I quarrel with the pictorial decorators, and there are unfortunately many such who are engaged on buildings at this present time. Another error is to imagine that a richer decorative effect is obtainable by the employment of an intense, high-pitched key of colour There can only be one really successful scheme for each one particular place, and it is the first object of the artist to discover what that is, what style of work, what scale of drawing, and what scheme and key of colour. This is where careful study and training as much as natural instincts will tell. For the rest it is not for me to say anything of my own methods ; I doubt if I could. I have contented myself with dealing as far as possible with the main question as to what will and what will not lead to a successful decorative effect.

Mr. E. Prioleau Warren said there was a great deal in Mr. Crace's paper which was suggestive. He had told them that the decorator was free in his own room, but even in the simplest room an initial idea was necessary—a scheme of colour to be relevant to the rest of the house. The door that opened and showed the colours outside had also to be remembered in the decoration of rooms of importance. It was the effect of the vista or change of colour which helped the general scheme. This was particularly the principle followed in English polychromy. In East Indian work the number of colours employed was very few, and the counterchanges gave a pleasant variety to the repetition. In their buildings one could look through arches or through doors and observe another treatment in colour, in which there would be an approximate or exact counterchange of the first room noticed. In dealing with the simplest apartments there should be some scheme for its colouring, and the effect of any windows would have to be reckoned. In country houses it was not perhaps wise to try a scheme of green. The beautiful bright and crude greens of the May or June foliage outside the house would probably defeat those inside. Mr. Crace's remark as to the necessity of line suggesting apparent strength was important, and ought always to be borne in mind where obvious structure was not required; it was a wise plan to recall some of the brilliant colours in a scheme, thus producing harmony. This was a principle applicable to the decoration of a room. Mr. Crace's paper, the speaker said, seemed to cover all the grounds on the question of decoration, and a good many of his views re-echoed opinions he, the speaker, had arrived at through his own observations. Mr. Moira's paper, too, had many interesting points.

Mr. A. H. Hart, who proposed a vote of thanks to the authors of the two papers, said they were all apt to look upon a Greek temple as a thing perfect in itself, and it did not seem necessary to have colour on such a work. The Greek building had to be seen in Greece to thoroughly appreciate it, and a visit to the country convinced one of the great brilliancy of the sunshine which necessitated the use of colours in building. Colour was needed in buildings as a means of enlivening the dulness of the surroundings, and anything that could be done by the artist to relieve monotony was good. Mosaic in this way could give dignity to a scheme of decoration. The two papers rightly called attention to the unsuitability of mounting pictures included in the decoration of a room, but which had been painted in the studio and not on the spot All the best works of the past were invariably painted in position and with great celerity.

Mr. W. H. Seth-Smith, who seconded the vote, said it was well to find two decorative experts who agreed in the great principle that the decorations in a building must agree with the structural scheme and express it. Artists were generally supposed to have no principle in their work. They depended on intuition, which in some cases was a safe guide, but it is generally found that principles are more sure and more likely to commend themselves to architects.

The President said they welcomed such papers, coming as they did from such men who had had real experience. In the decoration of architecture they must ever strive after repose, and their work should have a feeling of stability about it. Mr. Crace in his remarks on former occasions, the speaker said, made them feel that he was a painter thoroughly in sympathy with the architect, and Mr Moira showed by his paper that he had the same good feeling towards architecture.

THE LIVERPOOL AUTUMN EXHIBITION.

THE next exhibition promoted by the Liverpool Corporation will be opened in the Walker Art Gallery on September 15. The artists who will assist the committee in the hanging of the pictures are Messrs. David Murray, A.R.A., Arthur Hacker, A.R.A., and Robert Fowler, R.I., of the Liverpool Academy.

The Curator, in his report, says that he accompanied Sir W. B. Forwood (chairman of the library, museum and arts committee), Mr. Councillor Lea (chairman of the art and exhibitions sub-committee) and Mr. Alderman Stolterfoht as a deputation to visit artists' studios and picture galleries in London in the interests of the ensuing Autumn Exhibition. A large number of artists were interviewed and promises of important works obtained, should they be at the painters' disposal after the close of the Royal Academy.

The deputation are of opinion that the works inspected were fully up to the average of former years, some showing considerable advance. In landscape art some very delightful work was seen and promised for Liverpool. The forthcoming display at Burlington House will be of a higher standard than of late years, from the fact that several most important works that could not be finished last year will this year be available for exhibition. The deputation made every effort to obtain works of importance, and these efforts will be continued until the autumn, with the view of making the Liverpool display as striking and important as possible. From the reception met with by the deputation everything points to a successful result, the artists being loud in their expressions of appreciation of the Liverpool Autumn Exhibition. As in former years, it was found that the copyright of many attractive works had been sold to publishers for the purpose of reproduction as photogravures. As a rule artists are willing to contribute the original pictures, but as many are sent abroad at the close of the Royal Academy to be photographed, difficulty has often been found in getting them back in time for the opening of the Autumn Exhibition. This inconvenience, it is expected, will be obviated by the resolution of the committee to open the exhibition somewhat later than hitherto, so that everything may be placed in time. Of late years it has been found that an increasing number of people are out of town early in September, especially buyers of pictures, so that the later opening, it is to be hoped, will be found more convenient to the public and beneficial to the exhibition.

The deputation visited the Royal Institute of Water-Colour Painters, the Royal Society of British Artists and the Royal Society of Painter-Etchers. At the Royal Institute a section is occupied by the Society of Miniaturists. There is a strongly marked revival of the beautiful art of miniature painting at the present time, also of pictures in pastel, while the Royal Painter-Etchers show many admirable works. Arrangements were made for the contribution of examples of these interesting arts to the next Autumn Exhibition, and it is to be regretted that want of space does not admit of a more adequate representation.

From the distress and anxiety in social circles caused by the Transvaal war, there are fewer portraits than usual to be seen in the studios. There is still much activity, however, in this branch of art. In not a few instances the painting of important subject-pictures has been left in abeyance by reason of the large incomes obtainable in the domain of portraiture by artists of the first rank. The deputation were privileged to inspect some notable portrait pictures, and it is expected that the ensuing Academy exhibition will derive much distinction from the display of several most striking and delightful examples. Not many years since visitors to Burlington House grew impatient, and even resentful, at the numerous uninteresting canvases depicting people of no importance which found places on the walls of the Academy merely by the right of the members to place them there. This is now all changed; the highest artistic talent of the country is employed on the lineaments of lovely women and children, and in generations to come there will be found in noble houses the features of famous men and fair women limned by the greatest English painters of the time.

In making numerous visits to the studios, observing the assured position of capable artists, the fashionable and aristocratic circles in which they move, one is struck by the consideration that art fills a large place in the social and intellectual life of the nation. There is scarcely any artist, not only those of eminence, but even those who are moderately endowed with artistic gifts, but has his clientèle of admirers and patrons; the studios are the rendezvous of a large number of people who are au courant with art in its varied phases. The merits and demerits of artistic production furnish ample and interesting material for conversation at the dinner table and in the drawing-room, and each artist according to his position becomes the focus of an art influence. There is also a growing ambition amongst the very wealthy to acquire the finest examples of painting and sculpture; the millionaire surrounds himself with the most precious things in art production, and at the same time gains social distinction and repute as a man of taste and judgment.

Taken together, artists of talent have now no cause to complain of want of recognition, and art culture and education is so widely diffused that it must have a vast influence on the social condition of the nation at large. The arts committee of the Corporation may reflect with much satisfaction upon their efforts for the promotion of art during the past thirty years. The Autumn Exhibition holds a record unique and unprecedented, and its influence has been far reaching in inciting other cities and towns to follow Liverpool's example. The importance of the work accomplished is fully recognised in London art circles. There is every prospect that in the future still more may be accomplished towards realising the mission of art to refine and elevate the people.

BERKS ARCHÆOLOGICAL SOCIETY.

A VERY largely attended meeting of the members of this Society was held on the 25th ult. at the Abbey Gate, Reading, under the presidency of Mr. C. E. Keyser, M.A., F.S.A. (president), among those present being Mr. Charles Smith, Dr. Bateman, the Rev. P. H. Ditchfield (hon. secretary), the Rev. Alan Cheales, Dr. Hurry, Mr. W. Ravenscroft (hon. treasurer), the Rev. A. H. Cunningham, Dr. Playne, Messrs. J. G. Wyly, W. K. Gosling, F. A. Sarjeant, T. H. White, F. J. Edminson, O. A. Shrubsole, R. E. Goolden, P. H. Turner, G. H. Stubington, A. E. Butler, J. Hammond, J. Maddison, Herbert Child, J. Messer, T. S. Cambridge, Stanley Hayward, &c., and a number of ladies.

The treasurer (Mr. Ravenscroft) informed the meeting that the committee had arranged, by private subscription among themselves, to buy two small doors which once belonged to the famous "Oracle" in Reading. There was no question as to their being authentic, and they were exceedingly interesting specimens of early Renaissance work, showing also traces of the old Tudor carving which lingered so long into the Renaissance period. The doors were carved on both sides. Mr. Ravenscroft proceeded to briefly refer to the work now going on at the Abbey Gateway, for which they were indebted to Dr. Hurry. Forty years ago, he said, when Sir Gilbert Scott undertook the restoration of the Abbey Gateway, plain stone blocks were put in where sculptured work should have been, and they were now going to work in the same systematic way which was originally contemplated, those blocks being now dealt with so as to carry out the original intention of Sir G. Scott. In that work they had had the kind assistance of Sir G. Scott's son, Mr. Oldrid Scott.

Mr. Keyser then gave an exceedingly interesting lecture, illustrated by lantern slides, on "Norman Doorways in Oxon and Bucks," Mr. H. Lewis (of Messrs. Dann & Co, Reading) managing the lantern. In the course of his remarks the President reminded his hearers that when he last year gave them a similar lecture on the Norman doorways of Berkshire he told them that there were still existing, or had till quite recently existed, in Berkshire, no less than 87 buildings which had Norman doorways. In Oxfordshire the number was much larger, for he had notes of 110 churches and other buildings still, or until recently, in existence He was obliged to use that phrase because those relics were constantly disappearing. It was a great misfortune that benevolent people who found large sums for what was called church restoration, but which often proved destruction, did not think of preserving relics of the past, for, even with the altered ritual arrangements, old churches could be perfectly adapted to the services of the present day. There were not, Mr. Keyser proceeded, so many Norman doorways in Buckinghamshire, but he had been able to collect notes and pictures of some forty, and they formed a very interesting series. He divided his subject into four periods. The first was the early, or what they called the Saxon period, of which, unfortunately, they had very few examples, which seemed to have fairly held its own until about the year 1080. The Norman architecture appeared to have become thoroughly established, and from 1080 to 1130 they got as a rule very plain Norman work, though they often found sculptured doorheads of an elaborate type, from an early period, with Norman mouldings. From 1130 to 1175 they got pure Norman work, with every kind of its varied ornamentation. About the latter date, however, the Early English work was coming in. That was the Transitional period, where they more commonly got the round arch with later forms of moulding, as seen at St. Lawrence's, Reading, where the arch was round-headed but the mouldings were clearly Early English. That Transitional period terminated about 1210, when the Early English, or first Pointed style, was thoroughly established in the country. Mr. Keyser then showed and expatiated on his various pictures. The Oxfordshire series embraced about 50 slides, and the Bucks doorways shown were some 40. The lecture, both intellectually and pictorially, was very highly appreciated.

Votes of thanks were then passed, and the meeting concluded.

ARCHITECTURAL DRAWINGS IN GLASGOW.

A COLLECTION of architectural drawings has been introduced as part of the exhibition of the Royal Glasgow Institute. The *Glasgow Herald* gives the following criticism of them:—

The works gathered together in this year's exhibition are fairly representative in character, both of the distribution and tendencies of present-day architecture and of the artistic quality of the buildings—good, bad and indifferent—which are being erected. Some of the exhibits have little enough to do with architecture in its essential quality of art interest, but the remark holds good equally regarding many of the works in the adjoining galleries when looked at from the same standpoint. It is perhaps noteworthy that in a commercial city like Glasgow relatively few of the drawings represent business premises, but considering the quality of most of the work of this class presently being erected in such profusion in our midst its absence here is no loss. The work contributed by one or two London architects in this category reaches a higher standard than that by local men, and it is certainly bad enough that a building such as that shown in No. 551 should be perpetrated in stone and lime in our streets without a representation of it appearing also on the walls of the Institute. The most noteworthy drawings representing this class of work, in addition to the English ones referred to—namely, Mr. Belcher's "New Premises, Hanover Square," No. 524, Messrs. Wimperis & East's building of the same nature, No. 530, Mr Aston Webb's "Steam Mills, Greenwich," No. 526—are contributed by Messrs. Jas. Salmon & Son, Mr. James Chalmers and Messrs. Burnet & Boston of this city. Mr. Belcher, like most serious architects of to-day, works on the traditional lines on which the architecture of this country has quietly developed into what is now known as Georgian. Interrupted since then by the Gothic revival it is now resuming its natural sway. But while traditional this architect's work is none the less personal, and combines with the nobility of the older style the vivacity and charm of the artist's individual rendering of it. The Hanover Square building here illustrated has all these qualities, and excepting perhaps an apparent want of scale between the low basement and the upper storeys, it is an admirable design. Messrs. Wimperis & East's building has more vivacity, more freshness perhaps, if less dignity, but is equally successful in its way, while Mr. Webb has made of an unpromising subject an extremely interesting design. Messrs. Jas. Salmon & Son's drawing of an office building now erecting in St. Vincent Street, No 505 in the catalogue, we are almost inclined at first sight to include in the *index expurgatorius* along with the exhibit already mentioned. The difficulty inherent in the satisfactory solution of the problem presented by the steel-framed, tall building, and the evident attempt here to grapple with it, must, however, to a considerable extent excuse the apparent lack of coherence in this design. But there is no reason in altogether neglecting to emphasise, in places at least, the necessary horizontal lines of the internal framing, no excuse but blatant self-advertisement for the cross between a Chinese pagoda and a dovecot which crowns the whole, and the detail is more suggestive of papier-maché than the honest red sandstone which has been pulled out and twisted into these extraordinary shapes. The individuality which this last design certainly does not lack is again seen in the Savings Bank Buildings, No. 511, shown by the same firm, but it is here dressed in more reasonable garb, and with correspondingly more successful results. Of Messrs. Burnet & Boston's block, now erecting at the corner of West Regent and Renfield Streets, and here shown in frame No 566, it may be said that it promises much better in stone and lime than it looks in the drawing, although the extremely attenuated dome at the corner and generally over-broken-up sky line, which seem the least satisfactory feature in the design, have not yet been reached in construction. Mr. John Hutchison's "Norwich Union Chambers," No. 523, shares this defect in some degree, but is more satisfactory in both mass and proportion. It is, however, much hurt by a want of "modulation" in the string-courses, which are unnecessarily numerous, and all of nearly the same size and outline, with unfortunate effect.

Mr. James Chalmers's "Business Premises," No. 531, erected in Cadogan Street, is an undeniably interesting piece of work, well massed and full of study in the details. It is also, however, characterised by an entire lack of reserve, of boiling down, so to speak; the architect's top-note is here screamed at its loudest Mr. Clifford's "Warehouse in Ingram Street," No. 513, if not extremely interesting, has at least this quality of restraint, and yet is not without individual character of its own.

The public buildings exhibited are comparatively few, none of the first magnitude; but most of those shown are interesting architecturally. In Messrs. Wimperis & East's design for "Bootle Fire Station," No. 557, the Corporation of Glasgow, and in particular its City Engineer's Office, may find an object-lesson to show what might have been in the matter of the new Central Station, just completed. Instead of a wealth of meaningless and, in the circumstances, useless moulding and ornament in the Glasgow building, we have here the special requirements and uses of the building strongly marked on the simple and dignified elevations, giving them as the result character and value as a work of architecture. Messrs. Lanchester, Stewart & Rickards's "Godalming Town Hall," No. 558, is an excellent piece of work, with full justice done to it in the charming drawing, and reminiscent of the well-known old building of the same nature at Guildford. Mr. J. J. Burnet and Mr. Oldrid Scott are given as joint architects of the new "Botanical Buildings, Glasgow University" (No. 522). We do not know to what extent the latter architect may have collaborated in producing the design, but certainly it is scarce worthy of Mr. Burnet's previous work. In the view from University Avenue in particular the various elements of the façade do not seem to hang together; the central doorway is at once out of scale and out of harmony with the rest, and the stone turrets at the corners are too small to have any meaning in construction or plan, too large to be considered as simply ornaments to the parapet, not to mention the fact that the idea is banal in the extreme. It is a relief to turn to the same architect's "Alloa Public Baths" (No. 571), admirably represented in a set of photographs of exterior and interior, where the fresh and vigorous handling of the older Scottish type of architecture which on previous occasions he has accustomed us to look for is again fully evidenced. Large design, skilful grouping and carefully studied detail have combined to produce an entirely successful building. Mr. William B. Whitie's "Springburn Public Hall," No. 527, with the exception of the central window with the projecting balcony under, which does not seem to "sit" well over the main entrance below, is a satisfactory piece of work. The broken outline of the large circular pediment does not, however, look well; both as a feature in itself and for the general effect of the gable it would look better carried across without break. These defects notwithstanding, we agree, as regards exterior, with the assessors who in the recent competition placed this design first and before the other two here exhibited, Nos. 537 and 548. Messrs. H. & D. Barclay's design for the "Empress Theatre of Varieties, Partick," No. 553, we do not much care for. To give what is practically a tenement front the character and appearance of a theatre, which is what the problem here seems to have been, is certainly not easy, particularly the character of self-assertion and advertisement which a variety house seems to require. The self-assertion is here, but the architecture seems to have been largely lost in the process.

The show of church architecture is poor as to quality, and what there is of it, with one or two exceptions, rarely rises beyond the level of the commonplace. Of the largest drawing and most important piece of work of this nature, Mr. John Honeyman's "Restoration of Brechin Cathedral," No. 561, and now in process of being carried out, it is difficult to speak critically without precise knowledge of the data furnished to the restorer by the old work. The pictorial representation of it here given shows a handsome and effective group of buildings, with an indication of much interesting and carefully studied detail. Other works in this category which deserve more than passing attention are Mr. W. F. M'Gibbons's "St. Cuthbert's Church of Scotland," No. 519; Mr. P. Macgregor Chalmers's "Kilmun Parish Church," No. 528, both interesting examples of Gothic architecture, though the first seems to lack somewhat in refinement, and the dim, mysterious chancel in the second is suggestive of anything but the Presbyterian form of worship; and Mr. Leonard Stokes's "All Souls Church, Peterborough," a refined and dignified group of ecclesiastical and domestic buildings, admirably portrayed in pen and ink by Mr. C. E. Mallows.

It is in examples of domestic architecture that the collection is richest, but space fails to do more than glance at a few of the more representative exhibits. The English architects (to whom the Council are indebted for adding so much to the interest of the room) are again prominent in this section. Of these are Mr. Prentice (No. 515), Mr. W. A Pite (Nos 517 and 518), Mr. Stokes (No. 520), Mr. Belcher (No. 521), Mr. Aston Webb (No. 562). In the work of all of these, as well as others unmentioned, one is gratified to observe the emancipation of the best work of to-day from the mere triviality and prettiness which characterised the so-called "Queen Anne" revival of the last decade or two. Nor are these most desirable qualities, so difficult of achievement without resulting baldness, lacking from the work shown by local architects. Especial note in this connection must be made of Messrs. M'Whannel & Rogerson's "Carron House" (No. 572), which is, as regards the exterior, at least, quite one of the best things in the room. Something of the same qualities are to be seen in the "Three Interiors" (No. 563A) of Mr. A. N. Paterson, which are further interesting as showing that the ordinary "terrace" house is not beyond redemption artistically, and on a simpler and less costly scale in the two charming frames, Nos 514 and 556, of "The Croft," by Mr. L. Rome Guthrie. The disposition of the old house may have hampered the former architect in his reconstruction of "Elstow, Dowanhill," No. 579; as to the front at least it wants a little in simplicity and repose. In this respect we prefer the garden front of the same house. Mr. Clifford in No. 559 has made an effective piece of work out of simple materials. The site is admirably taken advantage of, as shown by the very successful pen-and-ink drawing. Mr. C. R. Mackintosh's "Artist's Cottage and Studio," No. 536, certainly does not lack simplicity in mass and outline; if original and interesting it is somewhat enigmatical. We have, indeed, heard it described as a "set of drawings for an armoured train." We note with regret the entire absence of several local architects whose works on previous occasions have added interest to the exhibition—Mr. Wm Leiper, Mr. James Morris, of Ayr, Mr. J. A. Campbell, among others. Some fairly interesting decorative work is shown by Mrs. Newbery, Miss Muir Wood, Miss Hutchison and Messrs. Wm. Meikle & Sons.

In conclusion, we think it a pity that the council of the Institute should have reverted to an objectionable arrangement of earlier years—that of hanging a frieze of oil pictures on the upper walls of this gallery. Architecture surely deserves a room to itself. The works in this section cannot be hung high without depriving them of all meaning; but the upper walls, left un-filled, should be simply draped as last year. The exhibition in general would suffer little loss from the exclusion of the forty pictures thus disposed of, and the works of architecture would gain in every way relieved of the superincumbent weight of gold frames and colour, and an undesirable confusion of interests.

REGISTRATION OF ARCHITECTS.

A MEETING of the Society of Architects was held on the 27th ult. at the Grand Hotel, Birmingham, to which architects throughout the Midlands were invited, and which was preceded by a dinner. The meeting was presided over by the president of the Society of Architects (Mr. T. W. L. Emden), and those present included representatives of firms in Birmingham and many of the Midland cities, among them being Messrs. J. Coulson Nicol, F. W. Franklin Cross, F. C. Bateman, W. Henman, J. R. Nichols, T. G. Price, J. M. Gething, Lewis Goold, C. Shaw and R. Heaton.

The Chairman, in introducing the subject of registration to those present, expressed himself in favour of the proposal, and said he thought that until it was brought about there could be no certainty as to whether a man were qualified or not. The officers of the Society had visited a considerable number of towns and had found that there was a general opinion that registration was desirable and necessary, not only in the interest of the profession, but also of the public.

A paper upon "The Statutory Registration of Architects" was then read by Mr. Ellis Marsland, hon. secretary of the Society, who at the outset in defining registration said that in the present it meant that every man practising architecture shall be duly enrolled in the official register under an Act of Parliament, and be duly responsible for his professional actions, and that no one be allowed to practise until he was duly enrolled. In the future it meant that no one be allowed to practise architecture until he was duly qualified, and had been found so by undergoing a qualifying examination. It meant, in fact, little more than making the Institute examination compulsory by Act of Parliament. The necessity for a higher standard of professional excellence and public confidence was of essential importance to provincial men. There was a feeling that local architects were all very well for the ordinary work of the town, but as soon as any work of primary importance was to be executed architects from outside must be invited to compete. Mr. Marsland argued that the Institute examination should be made compulsory, and said that at present any person with or without a fair general education, any builder, builder's foreman, clerk of works, clerk in a local board office, auctioneer, undertaker, &c, with the sole qualification of being able to provide a brass plate, was at liberty to advertise himself as a person qualified to give advice to the public in the science and art of architecture. Builders, decorating firms and others boldly proffered their services as architects, while an architect or architectural assistant was "devilling" in the background. At a meeting of architects in London, so far back as 1886, a committee was appointed to consider the means necessary to obtain an Act of Parliament making it compulsory for all architects to hold a Government diploma. This committee eventually framed the Bill at present before Parliament, which, he pointed out, was not the Society of Architects' Bill, although it had received its cordial sympathy and support. The advantages arising from registration were :—Closing the doors to competent men, raising the standard of the profession, obtaining the confidence of the public and State recognition. It was not proposed to say that all who desired to build should employ an architect, but they did propose that henceforth, in the interests of the public, no person should be entitled to call himself an architect whose name was not enrolled as qualified under an Act of Parliament, and any person wishing to employ an architect might, by consulting the official register, ascertain what men were qualified. It was not pretended that it was desirable to examine on the artistic side of architecture; but the scientific, practical and constitutional side is one to which examination might be applied, as also in the principles upon which ancient styles of architecture were based, and their rise, progress and development. The Bill at present before Parliament provided for a general council and branch councils to administer the Act, and for the appointment of registrars and the necessary machinery for registration. At the commencement of the Act all members of existing architectural bodies, and such other persons as could show to the satisfaction of the council that they were actually practising architecture, would be registered; and afterwards only such persons as had passed a qualifying examination. The Act also provided for an examination, either by the general council or some already existing architectural body, for fines upon unqualified or unregistered persons practising as architects, and for a provision as to their inability to recover charges for professional services rendered.

KINGSTON BRIDGE.*

THERE has always been a ford at or near the site of the present bridge; indeed, the right bank of the river, which was wider and shallower than it now is, extended as far as the foot of Kingston Hill. The geological character of the whole district supports this view, the ancient bank of the river being distinguishable from Ditton northwards to Richmond. The remains of the mammoth found by the Kingston Gas Company and preserved in their office, bear this out. The ford, being the first ford of the Thames, was one of importance, and was protected in British times by a strongly entrenched circular camp on Wimbledon Hill, now called Cæsar's Camp. Cæsar may have made use of this camp, but its shape, circular not rectangular, shows it to be of much earlier origin—(it is probably the oppidum in Cæsar Bk. V., the Camp of Cassivelaunus). It is fairly conclusively proved that it was at this ford that Cæsar, having forced the Britons to retreat under Cassivelaunus, engaged him in battle here. The legitimate territory of Cassivelaunus was on the north of the river; he therefore retreated into his own territory and placed stakes in the river to oppose the progress of the enemy. Numerous swords and weapons have been found on the spot and in the bed of the river, which prove fairly well that this was the site of the battle. Later, under the Roman rule, the Emperor Claudius, constructed a wooden bridge here for the transit of his troops and the convenience of the people; and to protect it they are said to have built the town of Tamesa upon Kingston Hill. They also constructed a road from Tooting through Wimbledon and the camp to the town and bridge. With the decline of Roman power the bridge became neglected and fell out of repair.

When the Saxons obtained the country they removed the bridge and rebuilt it half a mile higher up the river, where they built their town of Moreford (the Great Ford). This bridge was injured by the attacks of the Danes and repeated frosts at about the end of the fifth and beginning of the sixth centuries, and was rebuilt on about its present site, and though, of course, it frequently underwent repair it seems to have retained its original plan until 1828. Mr. Anderson, writing in 1818, says:—"The bridge in its present state is an ordinary structure of timber, so inartificially put together as would warrant us in pronouncing that whatever changes it hath undergone in its materials from frequent repairs, that there has been no deviation from the plan on which it was originally built. The supporters, which are more than twenty in number, occupy the space of an hundred and twenty-six yards, exclusive of 46 yards of masonry employed at both ends."

The earliest record we possess of this bridge appears to be that which occurs in the Close Rolls of Henry III., August 9, seventh year of his reign, when the king entrusted the custody and repair of the bridge into the hands of Henry de St. Alban and Matthew Fitzgeoffry de Kingston, and ordered the bailiffs of the town and the sheriff of the county to supply materials for its repair. The year following the king issued a writ to the sheriff to give seizen to the said Matthew de Kingston of the house belonging to the bridge, together with the charters and muniments of the same. In 1368 John Lovekyn left 10*l.* for repairing. Later in the same reign (Edward III.) the bridge, which is stated to have "then gone to ruin and decay," was given to the care of the bailiffs of the town and their successors (Hugh Taverner and John Waigne) for fifty-one years to take tolls for ten years. At the expiration of this lease, in the twenty-seventh year of Henry VI., the bridge was again granted to the bailiffs of Kingston for a further term of fifty-one years, the cost of its repair being derived from tolls and rents of towing paths, and the following gifts and bequests :—Richard Clark, November 4, 7th Henry VIII., by indenture conveyed to the bridge wardens a messuage in Kingston for "repairs to the Great Bridge"; Hugh Stephynson, January 5, 11th year Henry VIII., also conveyed by indenture two messuages and three gardens and their appurtenances in Kingston opposite Clattern Bridge, for the repair of the Great Bridge; in 1565 (Queen Elizabeth's reign) Robert Hammond, of Hampton, bailiff of Kingston, settled land to the value of 40*l.* a year for the future support of the bridge, and for exempting it from all tolls, in remembrance of which there was inscribed on a rail about the middle of the bridge, "1565. Robert Hammond, gentleman, bailiff of Kingston, heretofore: He made this bridge toll free for evermore." When the rails were repaired this plate was removed, and instead, on the north side of the abutment at the west end, there was a plate :—"Robert Hammond, gent., sometime bailiff of this towne of Kingston, made this bridge toll free November 15, 1565."

The bridge, being the first bridge above London, is closely connected with many historic disturbances. Mr. Lysons, in his "Environs of London," p. 216, says that "in the year 1472 the Bastard Falconbridge, with an army of 17,000 men, went to Kingston in pursuit of Edward IV., but finding the bridge there broken down retired with his army to St. George's Fields." In 1554, when Queen Mary's proposed marriage with Philip of Spain excited people to rebellion under Sir Thomas Wyatt, the insurgents, unable to cross from Southwark by London Bridge, marched to Kingston, where they found the bridge had been broken down by order of Queen Mary, fully 30 feet having been destroyed, and the opposite bank guarded by 200 men. Wyatt, who had two pieces of cannon, dislodged his opponents, rudely repaired the bridge with planks, and his troops passed over. It was in consequence of the damage sustained by the town at this time that Mary on her marriage granted the town the privilege of making and repairing a third fish weir—and unlike former charters this was specially exempt from fees and fines. In 1607 the bridge was broken down by a severe frost which froze the Thames. During the Civil War with Charles I. the bridge was considered an important post, and was held alternately by the Royalist and Parliamentary forces. The bridge was frequently used as a place of punishment for women who were convicted of being brawlers. They were placed in a cucking-stool and ducked several times under the water. Clattern Bridge—the other bridge in the town—is said to derive its name from the custom of ducking clattering women. [The *Universal Spectator*, October 14, 1738, gives an account of the ducking of a scold by order of Quarter Sessions. The *London Evening Post*, April 27, 1745, gives the following paragraph:—"Last week a woman that keeps the Queen's Head alehouse at Kingston in Surrey was ordered by the court to be ducked for scolding, in the river Thames under Kingston Bridge, in the presence of 2,000 or 3,000 people." Full particulars of the cucking-stool, which, with the stocks, was preserved under the Town-hall, are given by Mission. "They fasten an armchair to the end of two strong beams 12 or 15 feet long and parallel to each other; the chair hangs on a sort of axle, on which it plays freely, so as to remain in a horizontal position. The scold being well fastened in her chair, the two beams are then placed as near the centre as possible across the bridge side, and being lifted up behind, the chair of course drops into the cold element. The ducking is repeated according to the shrewdness possessed by the patient, and generally has the effect of curing her immoderate heat, at least for a time." The cucking-stool was the property of the town, and we find the entry:—"1572, making of the cucking-stool, 8*s.*; iron work for the same, 3*s.*; timber for the same, 7*s.* 6*d.*; 3 brasses for the same and three wheels, 4*s.* 10*d.*" Mr. Anderson, writing 1818, says this form of punishment has long since been laid aside, though the practice of placing the old stool against the house of a scold appears to have continued for some time afterwards

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* A paper read by Dr. Finney at a visit of members of the Balham and Antiquarian and Natural History Society to Kingston-on-Tham

In 1821 the old wooden bridge had become past all mending, and in 1825 an Act was obtained for the rebuilding of the bridge and the present bridge, designed by Mr. Edward Lapidge, was erected at a cost of 40,000*l.* The first stone was laid November 7, 1825, by the high steward of the borough, the late Lord Liverpool. The bridge was opened by the Duchess of Clarence, July 17, 1828. But the bridge bore a toll-house and exacted a toll from all who crossed it, and it was not until March 12, 1870, as the result of hard work undertaken in an intelligent manner by Mr. Alderman Frederick Gould, that the bridge was freed from toll, and the coal and wine dues were subsequently abolished. The toll-gates were broken down and wheeled away amid the cheers of an immense crowd in the presence of the mayor of Kingston, Mr. Alderman Joseph Marsh, the Lord Mayor and Sheriffs of London, the chairman of the Metropolitan Board, Lord St. Leonards, the high steward, and all the sheriffs, councillors and rulers of Surrey, and a public luncheon followed. Mr. Alderman Gould was presented with a massive silver salver, silver candelabra and ornaments silver-mounted, made from the wood of the old bridge, suitably inscribed, as a recognition of his great services to the borough.

TESSERÆ.

Greek Churches.

THE churches and chapels of Greece are all erected more or less after the Byzantine type, of which the most complete development is embodied in the celebrated Sta Sophia, or Church of the Divine Wisdom at Constantinople. Some Eastern churches partake more of the basilican character, and exhibit partly the earliest arrangements of the West, but "a true Byzantine church," says Mr. Neale, "might most fitly be defined as a gabled Greek cross with central dome inscribed in a square or quasi-square. This square has on the west an addition, not usually under the same roof, and sometimes a mere lean-to, and is on the east externally for the most part and almost always internally triapsidal. . . . The three apses are, that on the north for the chapel of Prothesis, that in the centre for the altar, that on the south for the sacristy" The interior arrangement involves a fourfold division:—1. The narthex or vestibule properly set apart for catechumens or penitents, divided from the rest of the church by a screen, and often forming the western addition alluded to above. 2. The nave. 3. The choir. These two divisions are less distinctly and often not at all separated; sometimes there is a low wooden barrier between them, corresponding to the rood-screen in Western churches. The choir is surrounded by stalls, as is also often the nave. 4. The bema or sanctuary is the distinguishing characteristic of Greek churches. In all of them, even to the smallest chapel or oratory, a solid wooden screen, reaching to the roof or ceiling, cuts off the apse or apses at the east end. This screen is called the iconostasis, from the icons or holy pictures on its panels, and answers to the altar rails in our churches. The inner space, corresponding with the holy of holies in the Jewish temple, contains the altar, and is entered through one central and two side doors pierced in the iconostasis. There is but one altar in a Greek church, and the ancient division of the sexes is strictly maintained and generally architecturally carried out, a women's gallery extending over the narthex or west end. It is to be observed that all pictures in Greek churches are executed after a traditional and conventional model, which has been enjoined by ancient ecclesiastical authority, and specifies exactly the colour of the hair and eyes, the size of the features, &c. However ill-executed in poorer or more remote districts, the same type is always preserved, resembling in a measure the countenances of the earlier Italian painters, *e.g.* Perugino. For to the Greeks it appears profanity to exhibit those objects which are proposed for their veneration with the expressions of earthly, everyday humanity, and consequently they regard as irreligious and debasing the ideal paintings of saints and angels which decorate Latin churches, and the "eyes of most unholy blue" which beam from the canvas of the Italian masters.

Gable Crosses.

Gable crosses may be divided into six kinds:—(1) Simple crosses, (2) wheel crosses, (3) floriated crosses, (4) rood crosses, (5) compound crosses, (6) diamond crosses. The first consist only of the arms of a cross, the terminations being generally worked in some ornamental form, as the cross moline, cross pattée, &c. The second, properly speaking, consist of a circle with many radii We distinguish them from (5) compound crosses, which are of the first kind worked within a circle, the ends of the arms projecting beyond it, and from (3) floriated crosses, in which the terminations of the arms grow into one another so as to form a circular outline—one of the most beautiful and frequent forms. Diamond crosses have floriated arms and are sometimes cusped in the central eye or hollow. The fourth kind is rare; it contains a figure and is, in fact, a crucifix. There is a mutilated one at St. Andrew, Histon, near Cambridge; one at SS. Leonard and John, Leverington; and one at St Mary, Thaxted, Essex. Some crosses are worked in the form of a crown of thorns, as a very rich and perfect example at St. Mary, Louth. Gable crosses are set on saddle stones, which form the upper or crowning-piece of the coping. These are generally worked in the three faces into gablets, the western side blocking off the ridge of the roof. But sometimes, and less elegantly, a plain stem rises out of the highest point of the gable, and this is the commonest in the Third Pointed age. In this era also crockets were introduced on the stem to relieve its naked appearance. It may be observed that plain crosses are extremely rare.

A Gallery of British Honour.

During the power of Pitt, in 1801, when the Royal Academicians proposed their plan for a Gallery of British Honour, to the formation of which they stated a provision of 5,000*l* per annum to be at once necessary and adequate, they were informed by that great financier that "it was not then the time for such an expenditure on the encouragement of the arts." On the succession of Fox to office very considerable hopes were felt by artists that at length the desired time was arrived. They were induced to entertain this persuasion by an interpretation (no doubt rashly formed on their part) of previous conversations of some of the zealous followers and intimates of that illustrious politician, from which they had drawn the most sanguine expectations of impending exertions in favour of their professional wishes. Alas! the only time, which was come, was that at which it was again thought proper to reply, that "the present was not the time." Both these great ministers were animated with sufficient love of fame to have raised the arts to the highest eminence if their views had been directed to that point; but they appeared not to have felt any strong motive for extending protection to them or fostering their growth in England. It has been requisite to advert to these circumstances lest they should at any time be brought forward as a plea against the protection of the arts of design. For what arguments shall supersede the difficulty arising from the importance of the two names above mentioned? The joint authority of Fox and Pitt against any proposition whatsoever seems to end all contest and overset all hope. Divided as those great men were on most public subjects, must not the point in which they unite be irrefragable? Happily, to obviate the force of so tremendous a question, it is to be recorded on an authority liable to no suspicion that one of those illustrious men in the latter part of his life began to be impressed with the importance of an enlarged national cultivation of the arts of design. When Fox in the summer of 1802 met the President of our Academy in the Gallery of the Louvre at Paris, he assured him that from the sight of the objects around him, and from their conversation on the subject of the fine arts, his mind had been awakened to a new estimate of their value, and he added a declaration of his intentions in their favour if he should ever again succeed to power. Nor was less reliance placed on a favourable change in Mr Pitt's sentiments at the time when the first plans were formed for the establishment of the British Gallery. But the influence of opinions, fraught with so great benefits to English painting, was of too brief a period to allow of any operation in its favour. The grave, in which the two mighty political rivals were shortly to meet, was already opening in their path, and their death put an end to the momentary prospects of success.

Art in the Fifteenth and Sixteenth Centuries.

Vasari, writing in the middle of the sixteenth century, vaunted that such was the fecundity of art and facility of execution in his time that six pictures could then be painted within the time occupied by the previous generation of painters on a single picture. The simple-minded historian of art seems to have been hardly aware that his vaunt implied rather reproach than praise, although it is true he has elsewhere amused his readers by the anecdote of an eminent painter who, at his easel, when called to his meal, replied that he would come directly, "for he had but one saint more to paint." The growth of public wealth and the progress of civilisation brought into existence hosts of artists and of patrons of art. Popes and potentates vied with each other in the patronage of it, and even kings would condescend to bid against each other for the corporal possession and exclusive monopoly of some favourite practitioner. The consequences of such excessive stimulus were obvious and inevitable. Prosperity begot reckless and careless extravagance, and extravagance led to a rapid deterioration. The real laborious artists of the fifteenth century wrought, no doubt, slowly and painfully—urged onwards not so much by a thought of lucre or applause as by a deeply-felt love of their art; whilst the flattering crowd of artists who filled the scene in later times were the spoilt children of fortune, painting and carving and building with wonderful dexterity and readiness of execution, it is true, and with a wonderful facility of invention in devising new shapes and fashions and fantastical combinations, but without that earnest, ardent, painstaking and simple severity of study which had conducted their forefathers to real excellence.

Cyclopean Remains.

The origin and date of the ancient structures, now familiarly termed cyclopean, will ever remain in comparative obscurity; the earth must have been considerably overspread with inhabitants and Egypt well cultivated before that people acquired the art and the leisure requisite for fashioning and moving with facility the large stones which form the roof of the central chamber of the opened pyramid, after which the emigrants or exiles from that enlightened nation could not but carry with them that species of knowledge, and when their new situation permitted they naturally imitated the arts of their forefathers. Thus Danaus or his descendants have left in the Morea specimens of massive stonework indicative of its authors and durable to the present age, and from such small beginnings architecture and statuary assumed a new origin in Greece and her Asiatic colonies. But the Britons and the whole race of kindred Gauls or Celts remained ignorant of the use of steel or iron tools, the immediate application of which in workmanship, however useful, bears but small proportion to the remote effects produced in consequence of it. The Britons, by aid of fire and collision of other stones, were able to produce a tool which towards the head was thickened so as to bear hard blows without injury. That the perforation in it was not intended for a stout handle wherewith to wield the tool may be inferred from the smallness of the aperture (fit for a flexible cane or whalebone), and more evidently from the perforation not being always rectilinear. Don Ulloa distinctly negatives any traces of the use of steel by the Peruvians. Massive stones, larger than those at Abury or Stonehenge, have been found near Quito, so that in more instances than one the advance in civilised arts by the Belgian colonists in Britain and the Peruvians before they were visited by the Romans and Spaniards respectively seems to have been checked at the same limit by the want of steel.

Correspondence

The Ancient Monuments Bill.

Sir,—I see that you devote a leading article in your issue of the 27th ult. to the Ancient Monuments Bill which Lord Balcarres has recently carried through the House of Commons. It may interest your readers to know that the Bill was first projected by the National Trust, and actually drawn by Sir Robert Hunter, the chairman of the executive committee.—Yours faithfully,

May 1, 1900. HUGH BLAKISTON, Secretary.

GENERAL.

The Exhibition in the Corporation Art Gallery for next year will be representative of Spanish art, and especially of the work of Velasquez and Fortuny.

William Hunt's *The Attack* and *The Defeat*, two drawings each measuring 16 inches by 11½ inches, representing a boy in a smock frock before and after an attack on a pie, were sold on Saturday for 1,150 guineas.

M. Gervex having completed his large painting, *The Coronation of Nicholas II*, it has been placed in the Russian section of the Paris Exhibition.

A Chimneypiece, executed by M Clovis Viard, in the section of Art Industries of the Paris Exhibition, is valued at 100,000 francs.

Mr. Deputy C. T. Harris has presented to the Corporation of London, for the Art Gallery, Mr. W. L. Wyllie's *Commerce and Sea Power*, now being exhibited in the Art Loan Collection.

The Bombay Port Trustees have resolved that, as a condition to the approval of the plans and specification, in all residential buildings of more than two storeys in height on their reclamations, at least one staircase, if not absolutely fireproof, of fireproof character shall be provided, which may be of iron or steel, stone, or of heavy scantlings of suitable hard wood, in which the treads shall not be less than 2¾ inches and risers 1½ inches in thickness respectively, "built in solid" with brick masonry or concrete work.

Mr. Onslow Ford, R.A., is to execute the bust of the Queen which Mr. G. P. Ernest has offered to present to the Corporation of London as an expression of gratitude for the hospitality extended to him in this country.

The Society of Engineers will hold their next ordinary meeting on Monday, May 7, at the Royal United Service Institution, Whitehall, when a paper will be read, entitled "The Economical Disposal of Town Refuse," by Mr. Brierley Denham Healey.

Copper Coins of the reign of Constantine I. were unearthed on the Hill of Tara, co. Meath, a few days ago. Romans coins have not been hitherto discovered so far inland in Ireland.

The Remains of a palace have been discovered in Crete which in plan resemble those of Tiryns and Mycenæ. An ancient fresco was also found.

Bothwell Castle will be visited by members of the Edinburgh Architectural Association to-morrow. It was completed as a fortalice before the close of the thirteenth century. A visit to Bothwell Church will follow.

The Collection of Drawings by M. Tissot illustrative of the Life of Christ has been secured for the Brooklyn Institute. The price paid was 60,000 dollars.

Mr. Dankmar Adler, one of the best known of American architects, has died in Chicago, where he was a partner with Mr. L. H. Sullivan from 1881 to 1895. He was born in Langsfeld, Saxe-Weimar, in 1844.

Mr. Charles Wilmot has been appointed examiner for engineering and architecture in connection with the Royal College of Surgeons, Ireland.

A Ruskin Exhibition is proposed to be held in the Coniston Institute during the months of July, August and September, illustrating the life and work of John Ruskin, and comprising (1) portraits, paintings, engravings, photographs and busts; (2) views of places connected with his work; (3) drawings by him, original and engraved; (4) manuscripts of his works, letters, &c.; (5) books by him, various editions, and rare volumes; (6) pictures and engravings by Turner and other artists illustrating well-known passages of his writings; and (7) relics and "Ruskiniana." The help of several owners and collectors, including Mrs. Arthur Severn, of Brantwood, has been secured, and other loans are probable. The proceed will be devoted to the Coniston Institute.

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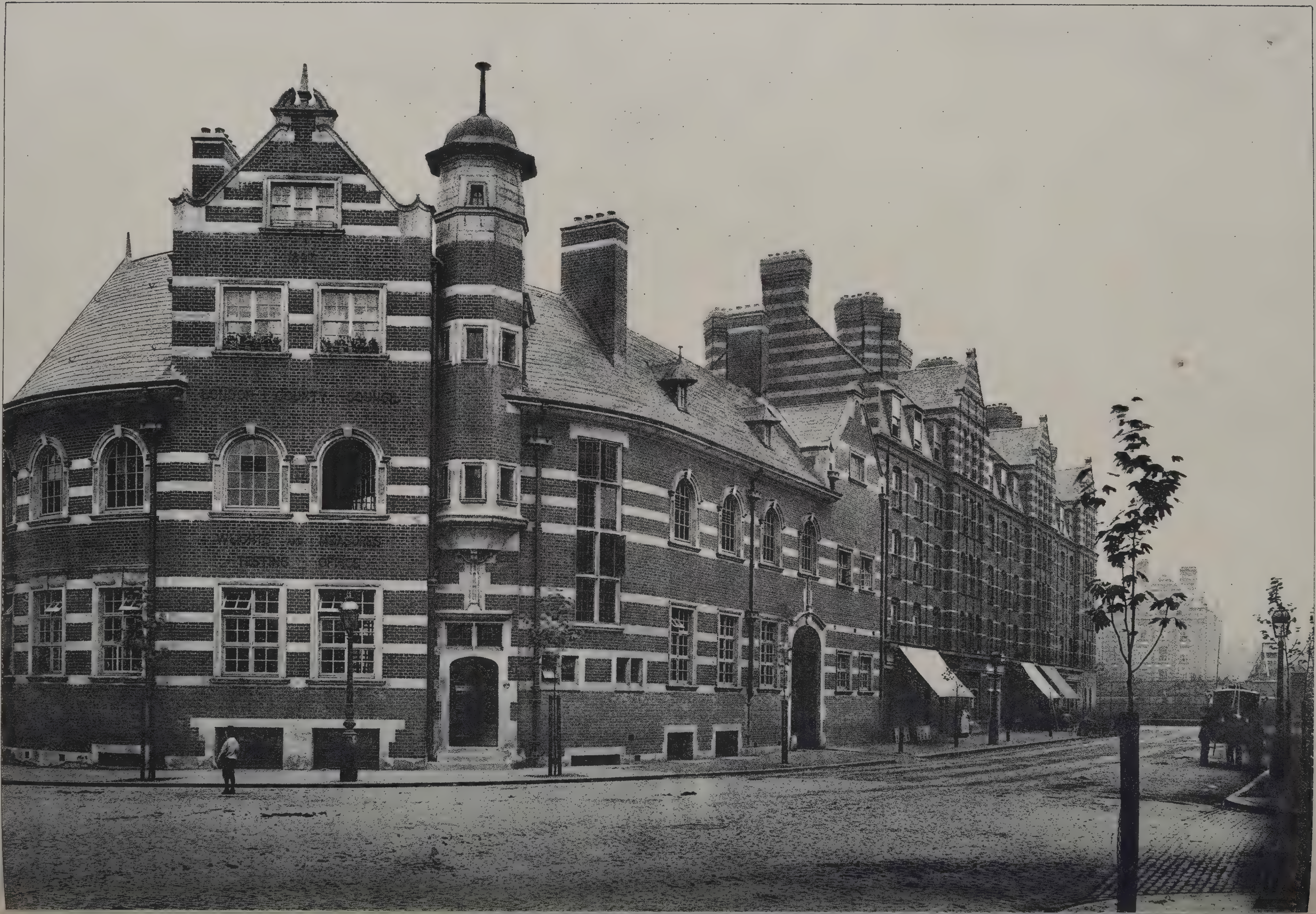

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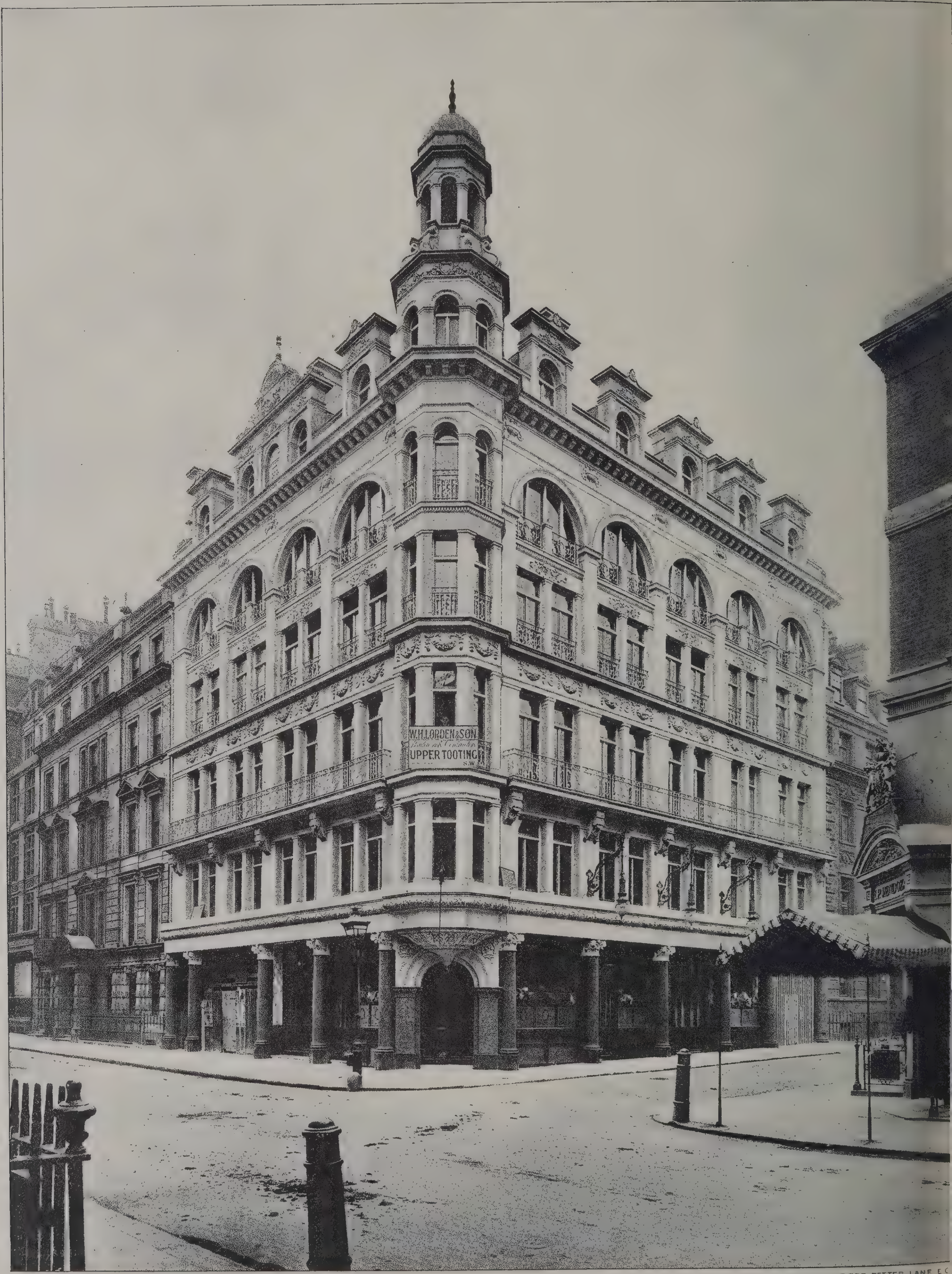

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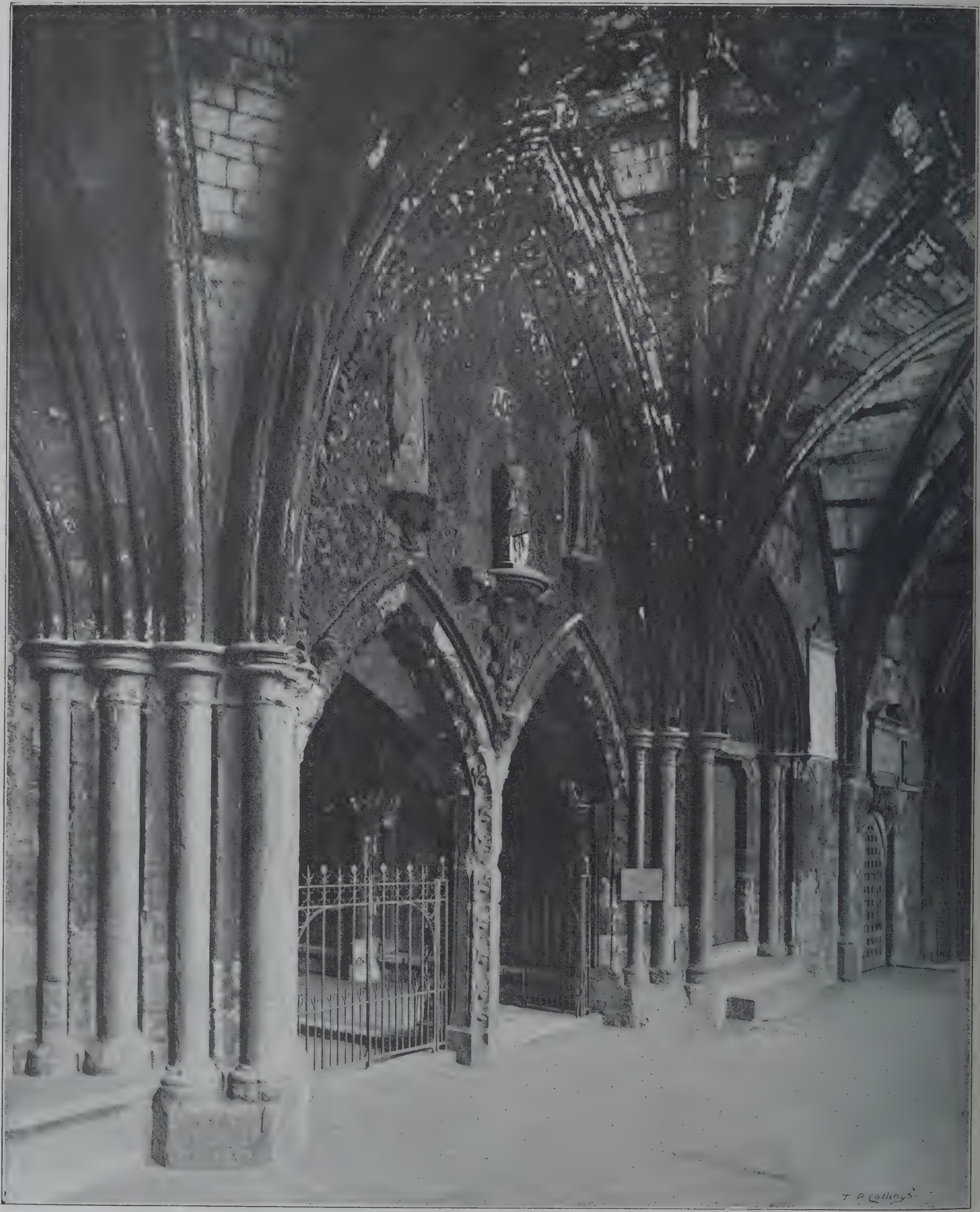

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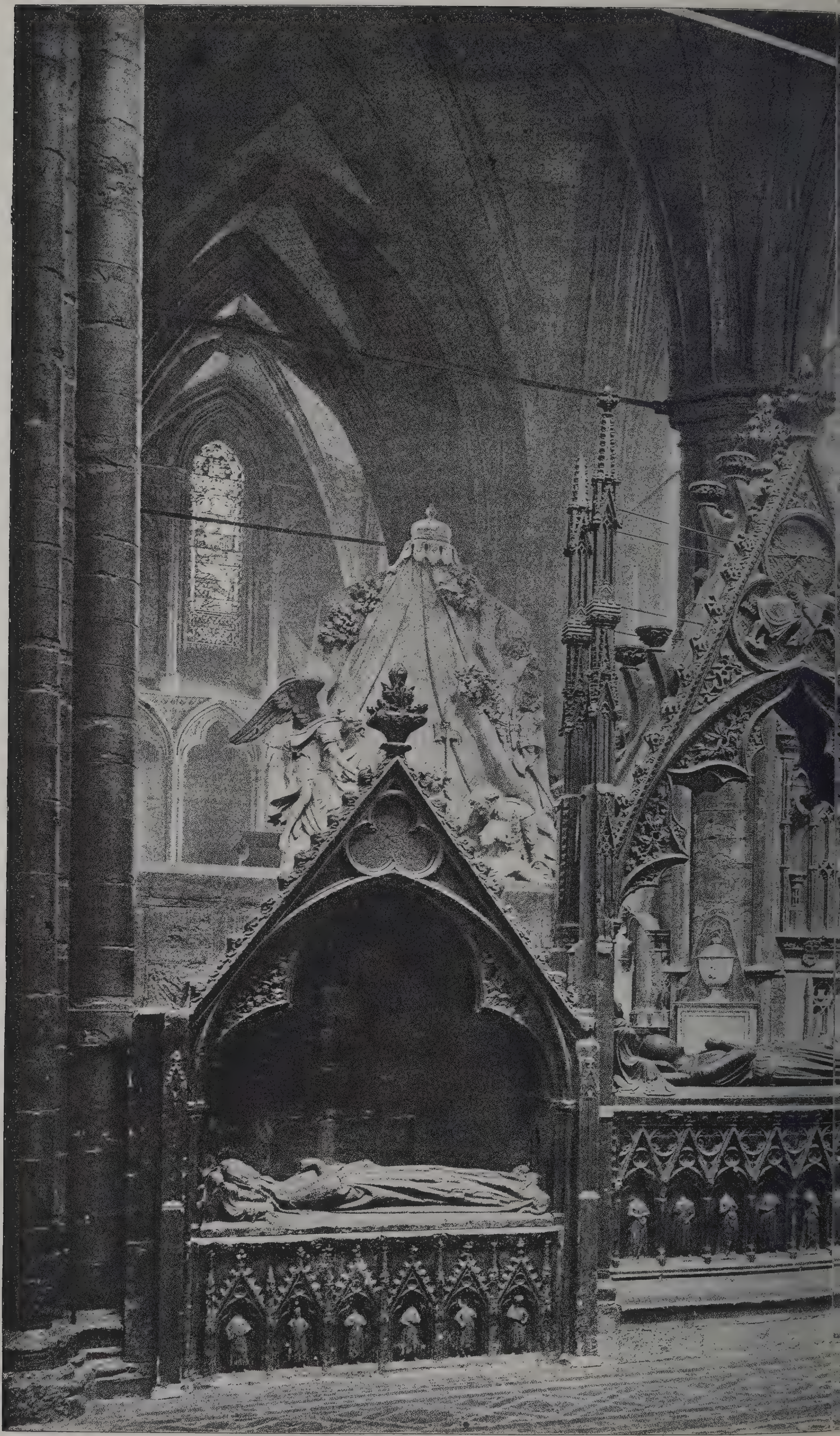

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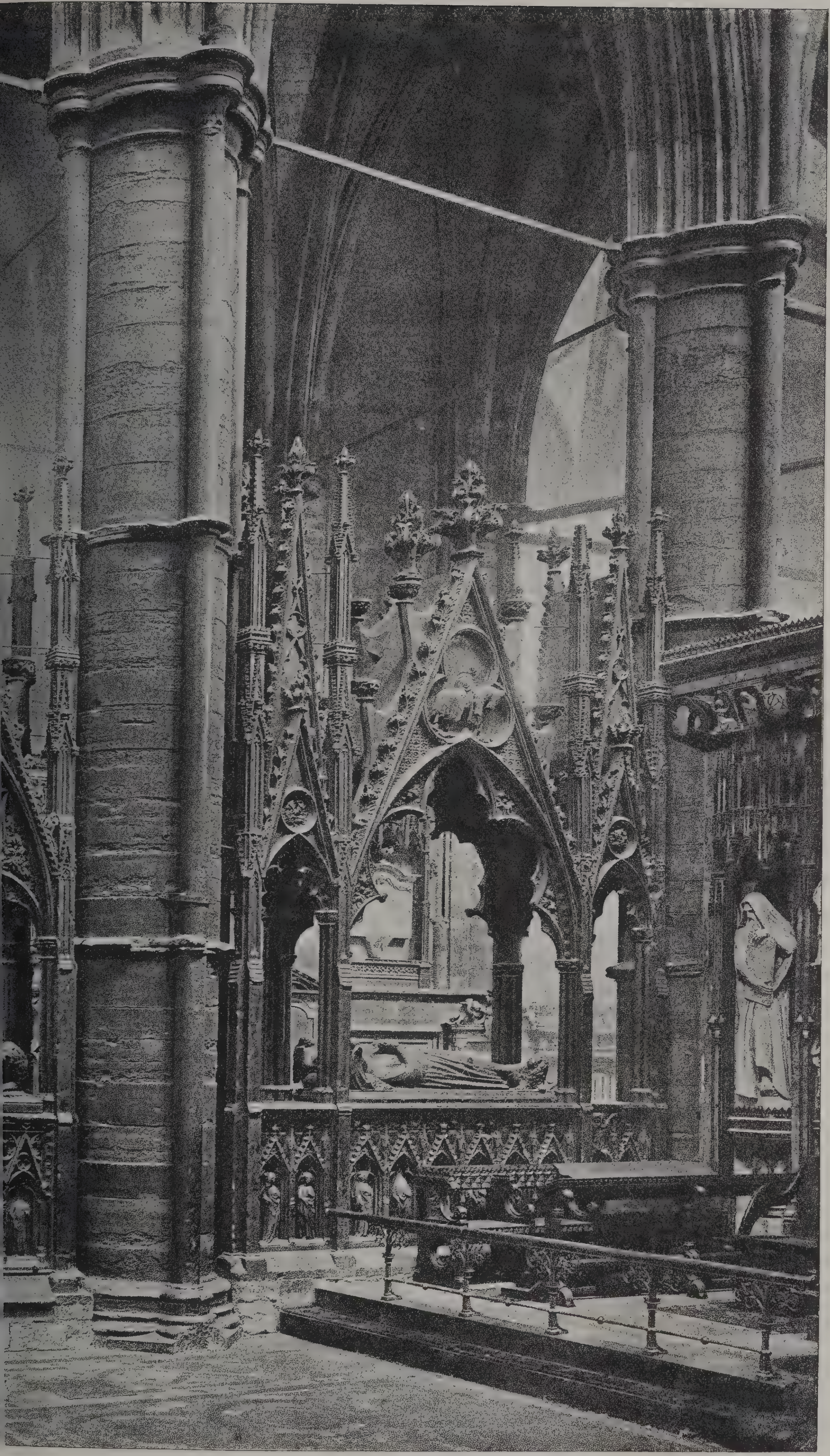

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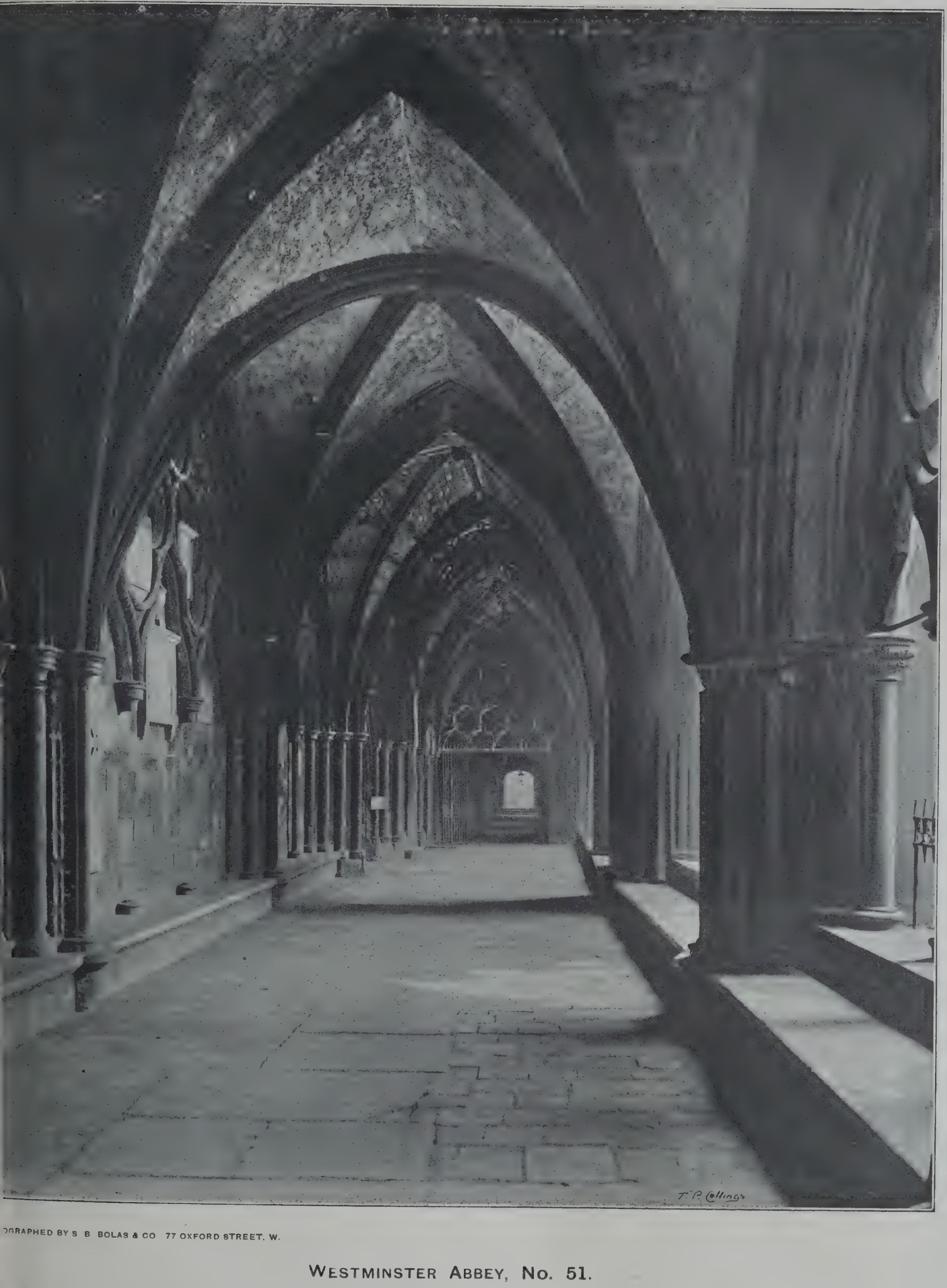

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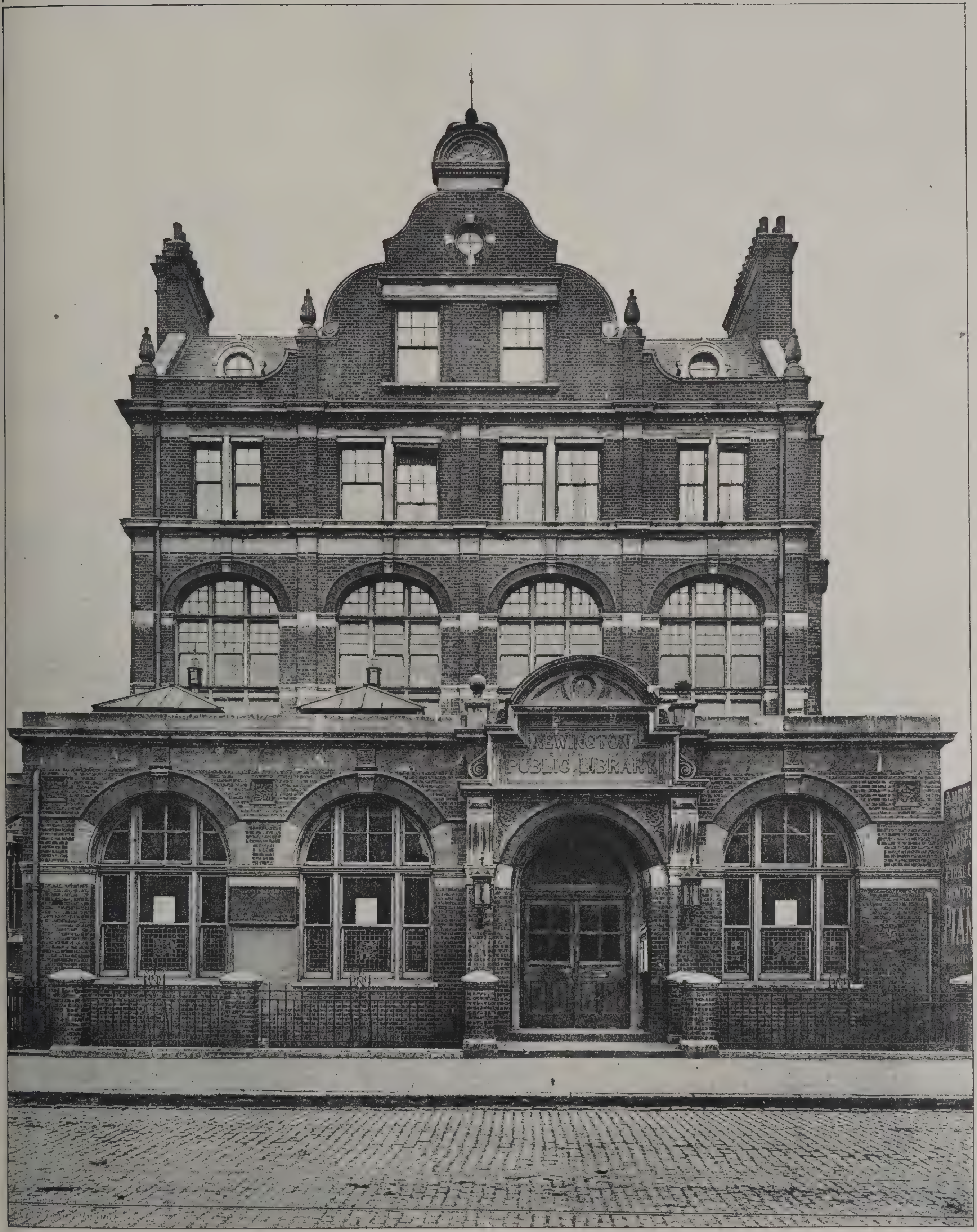

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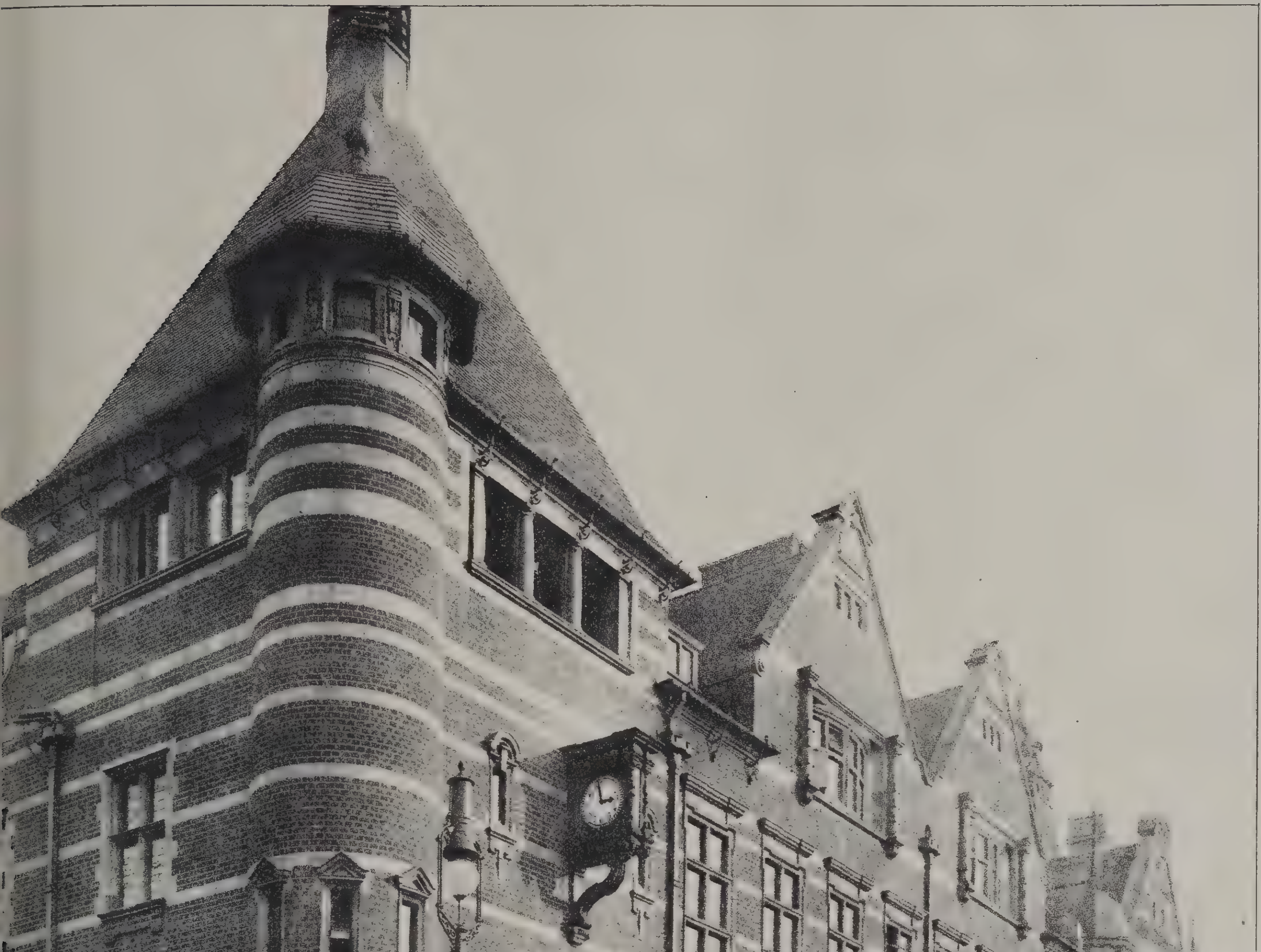

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The Architect.

THE WEEK.

THE action of the Salford Town Council in respect of their electrical engineer, Mr. C. L. TURNER, must cause much amazement among engineers who are employed by companies or corporations. Mr. TURNER was instructed in August 1898 to prepare plans for new works and plant. In December 1898 tenders based on the plans were sought by advertisement. Before the tenders were considered the plans and specifications were rejected, and a new set was obtained from Messrs. LACEY, CLIREHUGH & SILLAR. In his plans Mr. TURNER introduced an arrangement of the pipes which was original, but which could be adopted in other places. He therefore took steps for patenting the improvement, by means of which any one of a series of boilers or its connecting steam pipe could be shut off without interfering with the supply of steam from the other boilers. A firm of pipe makers agreed to allow him a royalty of 7½ per cent. on all pipes manufactured according to Mr. TURNER'S design. Tenders were sought and contracts entered into according to Messrs. CLIREHUGH'S plans. Several members of the Town Council considered that Mr. TURNER acted incorrectly in arranging for a patent without obtaining in the first place the sanction of the Council, and a special committee was appointed in April to consider the subject. In the report the committee say that Mr. TURNER was not justified, without the knowledge and permission of his committee, in seeking a patent for work done by him on behalf and at the expense of the Corporation who were his employers, and that there had been an unfortunate coincidence in the time of his securing a patent for pipework with the time when plans were being produced for contractors with the Corporation in his own department to tender for pipework. There were other matters referred to in the report which are of less importance. The report was taken as read and the Mayor of Salford moved:—"That, in the opinion of the Council, Mr. C. L. TURNER has forfeited its confidence, and that he be required to resign his position as electrical engineer, and that three months' salary be paid to him in lieu of notice." The Town Council have, we consider, acted precipitately, and if legal proceedings were to be taken it is doubtful if their action would be approved by the Courts. Electric engineering is so young a science, there cannot be many precedents to suggest how an engineer should act when he has invented improvements. In the agreement with Mr. TURNER it may be taken for granted that he was not expected to introduce inventions of his own or to make them over to the Town Council gratuitously. One small novelty might be more to an engineer than several years' salary, and it does not seem fair that any official should be called upon to sacrifice his own interests without some compensation. Whether the Council should have been consulted on the subject is a question of etiquette, and there may have been valid reasons for Mr. TURNER'S conduct.

THE summer meetings and excursions of the Royal Society of Antiquaries of Ireland will be held this year in North Clare. Lisdoonvarna, which is renowned for its mineral springs, will be the headquarters, and the proceedings will occupy the week which begins on July 30. The district proposed to be explored is of unusual interest for the antiquary. It abounds in antiquities, possessing over seven hundred forts, fifty cromlechs, twenty-four churches and monasteries, five crosses, three round towers and twenty castles, besides pillar-stones, cairns and souterrains. Of the principal antiquities may be enumerated the great stone fort of Ballykinvarga with its *chevaux-de-frise*, the triple fort of Cahercommaun and the cliff fort of Cashlaun Gar. The cromlechs of Poulnabrone, Baur (two) and Glasgeivnagh (twelve accessible). The beautiful monasteries of Ennis, Corcomroe, Killone and (possibly) Quin. The churches of Kilfenora and Dysert O'Dea, with rich Romanesque details and sculptured crosses. The castles of Lemaneagh (with courts, turrets and fish-pond), Inchiquin and Ballinalacken, and the round castle of Doonagore. The scenery is in many places very beautiful, as, for example, the Lake of Inchiquin under its wooded mountain, the cascades and glen of Ennistymon, the terraced hills of the Burren and the cliffs of Moher with the bays of Galway and Liscannor.

A GENTLEMAN bearing the knightly name of SALINS DE MONTFORT could not escape from being considered as a dangerous aristocrat in the first French Revolution. An engineer officer who was thus designated found it prudent to escape to Germany and leave all his property behind him. He was able to turn his constructive ability to account. In Alsace, Frankfort and other places he was appreciated as an architect and director of buildings. About 1806 he was engaged in Würzburg. The Grand Duke, who had been travelling in Italy, returned to that city, and his studies in the south made him dissatisfied with the decoration of the palace. SALINS DE MONTFORT was commissioned to transform it; he was afterwards appointed chief official architect, and remained in Würzburg till 1814. He was also employed in Bavaria, and in 1815 he returned to Frankfort, where he lived until his death in 1821. His name is generally omitted from histories of German architecture, but it has now become evident that he was an influential force in the art during the early years of the nineteenth century. The resuscitation of his name is due to Herr GOBEL, the archivist of Würzburg.

DUBLIN has the unenviable peculiarity among British cities in being without a statue of the QUEEN. One of the reasons, doubtless, is that statues of other monarchs are not generally respected. The equestrian statue of WILLIAM III. was for a long time in danger of being reduced to the condition of the statue which used to stand in Leicester Square. The statue of GEORGE I. which once adorned a bridge over the river, is now concealed in the garden of the Mansion House. GEORGE II. is visible in St. Stephen's Green. The statues of CHARLES II. and JAMES II., which belonged to the old Tholsel, are to be found in the crypt of Christ Church, and are known to few. It was intended to restrict the subscriptions for the proposed statue of HER MAJESTY to members of the Royal Dublin Society, but now the whole Irish public can subscribe. The memorial is expected to cost at least 4,000*l*. If an Irish sculptor could be discovered who was competent to carry out the work the commission should be given to him, but as there is little demand for examples of the art in Ireland, it is no wonder there is no successor to FOLEY, MACDOWELL and HOGAN.

FROM the report of the American Consul in Bangkok it would appear that improvements in building sometimes arise from scarcity of materials. As in most Siamese towns, the inhabitants were satisfied with any sort of shelter. Nature provided them with teak and they could use it economically or wastefully according to the whim of the owner. But when the qualities of teak became known there was a demand for it from various parts of the world, and the Siamese could not resist the money offered for pieces. It was supposed the vast forests contained timber that would be as well adapted for home use. As yet there has been no good wood found to take the place of teak, which, in addition to durability and strength, possesses the quality of resisting the white ants better than other woods. Brick columns have now to be used in the place of teak posts. They are cheap and strong, but they are very clumsy in a house which otherwise is lightly constructed. It is believed that iron girders and posts would come into favour if once they were introduced. Several large fires have given rise to ordinances prohibiting "attap" (thatched) roofs or bamboo structures in the city in future. These circumstances, on the whole, have proved beneficial, for the city now rising is for a large part made up of brick, iron and tile. In course of time the Siamese builders will discover that thin piers will support roofs, and that will mean progress towards architecture. Owing to the absence of teak it has been necessary to make bricks. As was to be expected with novices, the bricks are very coarse and rough, and as the eyes of Siamese are offended with their appearance it is necessary to cast a plaster veil over them. The discontent augurs well for the future, and in course of time we may expect the Siamese to gain renown for their brickwork.

ARCHITECTURE AT THE ROYAL ACADEMY.—II

THE new building for Parr's Bank, Limited, in Castle Street, Liverpool, by Mr. R. N. SHAW, R.A., and Messrs. WILLINK & THICKNESSE, is a fine example of the Liverpool commercial office. The lower part is of massive masonry, apparently in a very dark grey stone. The upper part shows courses of white and black, and the window dressings are in red terra-cotta, and thus serve to brighten the front. A building of the kind suggests stability, and it is as appropriate a treatment for a bank as can be devised. In Mr. NEWBERRY'S premiated design for the "Library and Technical Schools, Leamington," a different treatment is adopted for each building. The "Proposed Clock Tower, Yorkshire," by Mr. EDGAR WOOD, shows very rough masonry for the walls, and above are enormous gargoyles. In such a case more importance should have been given to the clock itself, for so much strength seems unnecessary to support a small dial. The "Crown on Tower of Church at Belmont Bridge, Glasgow," by Mr. J. J. STEVENSON, is a well-considered example of a structure that forms so suitable a finish to a building. It is strange that in southern buildings the arrangement has not been more often utilised, exemplifying as it does the conflict of forces producing repose which epitomises the principle of Gothic. Height is, however, indispensable to gain the full effect, and, as well as can be judged from the drawing, the tower at Belmont Bridge is rather low. Mr. P. E. NEWTON'S "Design for a Chapter-house" is boldly conceived. The plan is hexagonal and arranged in such a way that the angles are acute; around the base is a row of statues with canopies. "The Library, Westbrook Hall," shows a recess approached by steps and adorned by wall-paintings. The provision for the books is not indicated by Mr. C. NICHOLSON. In "The Hall of a House at Cobham," by Mr. BAILLIE SCOTT, timber is boldly used. There is a quaint design for a mantelpiece, by Mr. ELLWOOD, and also some designs for furniture by Mr. E. O. CLARK. "The Roxeth Schools, Harrow-on-the-Hill," by Mr. ARNOLD MITCHELL, may be considered novel, for they are Gothic in style and more costly than is now considered necessary for buildings of the class. A fine window has been introduced over the porch. Messrs. MALLOWS & GROCOCK have an able design for the "Science and Art Schools, Leamington." In the "Design for a Church at Exeter," by Mr. H. C. CORLETTE, the principal feature is a very sombre and massive tower.

The "Building for Lloyd's Register of Shipping" is one of the most important in the room, and the exterior is shown on three drawings. Mr. COLLCUTT has adopted a more definitely Italian style than in his earlier buildings. Rusticated columns are employed below, and the entrance is dignified by sculptured reliefs over the gateways. In the first storey the windows have semicircular heads, but are square-headed above. From its position the building can have two façades; the angles are admirably treated, and are finished by small turrets with cupolas, sculptured panels being also introduced. "Business Premises, Kingston-on-Thames," is suggestive of a revolution in the ancient Saxon town. Messrs. WIMPERIS & ARBER show several houses which, while each is independent, appear to be part of one large establishment or property. This is owing to the extra importance imparted to the centre part. The shops have large bay windows, and through the influence of such a block much rebuilding is likely to follow. Drawings are shown of the new Public Library, Forest Hill, by Mr. A. R. HENNELL; the Steep House, Keswick, by Mr. W. H. WARD; a Billiard-room, by Mr. A. H. BELCHER; and a House at Dean Row, Cheshire, by Messrs. MEE & JENNISON The "House, Edgerton, Huddersfield," by Mr. E. WOOD, appears as if built on a common. It consists of a central block with two wings; the entrance is arched and the general effect is dignified. The "Parochial Institute, Outwood," by Messrs. BUTLER WILSON & OGLESBY, suggests a small two-storeyed building with a turret, which must form a picturesque addition to the village in which it is placed. The late Sir JOSEPH PAXTON would be delighted with the "Printing Premises, Birmingham," contributed by Messrs. BATEMAN & BATEMAN. The building can be described as formed entirely of glass, for the opaque materials are reduced to a minimum, and the green slated roof contains three storeys of windows. As it is an effort to meet the requirements of the business, the authors are entitled to praise. The architects also show a warehouse in Birmingham in which glass is extensively used, and there is, moreover, a contrast with a neighbouring building having windows of an ordinary size, the two examples of different styles being connected by means of a bridge. The "Ocean Insurance Corporation Buildings," by Mr. H. HUNTLY-GORDON, might be placed in the neighbourhood of the Houses of Parliament as Government offices, and so large an example of Gothic must appear as a feudal palace amidst ordinary office buildings. The objections which used to be raised against the style as unfitted for modern purposes do not apply in this case. The windows are all very large, and the walls have none of that prison-like monotony which was supposed to be inherent in a building derived from Mediæval examples. It is surmounted by a figure of Justice, and that virtue should be respected by those who declare the Gothic style to have no relation with modern life. Another example of Gothic is "The Entrance Tower of All Saints Convent," by Mr. LEONARD STOKES, which is not, however, without indications of Renaissance spirit. The community must be wealthy who are able to erect so costly a structure. Sculpture is liberally employed to fill the space between the doorway and the window in the upper part. It is an excellent composition, and if convents are to be considered as prisons, it is enough to create the idea that they are not disagreeable to the inmates. Mr. F. G. LUCAS has an L-shaped house at Hitchin, and Mr. A. H. BELCHER a shop front in Park Street, which appears to be carried round the site without giving prominence to the entrance.

The "Pulpit for the Church of St. Stephen at Bexhill," by Mr. H. WARD, is on a level with the floor of the building, and the speaker will be, therefore, not much above the congregation. By an æsthetic minister of the kind imagined by Mr. DU MAURIER, who wished "every fold in the surplice to tell," the arrangement would not be approved. A view of the exterior of the church is also to be found in the room. "Frithwood House, Northwood," by Mr. M. E. MACARTNEY, is of the old-fashioned type, with red brick walls and red tiled roof. It stands on a terrace, which is upheld by a red brick dwarf wall; the windows apparently are iron casements. Mr. A. STRATTON'S "House by the Sea" is mainly constructed of wood, and is placed on an elevation which, to some extent, appears to be artificial. The "Depôt for the Bristol Tramways" is vastly superior to most buildings of its class. It is by Mr. W. CURTIS GREEN, and it is not only refined in style, but is well adapted to its purpose. Of higher value in an architectural sense is the "Power Station" by the same architect. Mr. A. C. BLOMFIELD'S "House at Headley Hill" is a many gabled building, with windows at regular intervals. "Ickleton Grange," by Mr. C. A. NICHOLSON, if carried out as represented will not suggest newness or sharpness of execution. The bricks appear to be peculiarly dull in colour. The stables and coach-house are near the residence. "Welder's, Chalfont St. Peter's," by Mr. MACARTNEY, is a house with three gables; over the windows on the ground floor are deep flat arches. The servants' quarters are arranged as a one-storey wing. In the "Competitive Design for a Public Building" the same architect shows a portion in the Italian style, and the fenestration looks as if a southern sun were always shining. Mr. MACARTNEY has also a view of a "Boarders' House at Bradfield College," a two-storeyed building in red brick. Messrs. DAWBER & WHITWELL have an excellent "Country House at Cley," though the absence of trees is a disadvantage. Mr. G. LACY sends a "Design for a Country House," in which the roof appears to be over-accentuated. Mr. J. S. LEE'S "Design for Public School Buildings" shows chapel, hall and class-rooms forming an I-shaped group. Mr. BAILLIE SCOTT has an entrance front for a house at Windermere, and Mr. SETH-SMITH has two half-timbered houses at Godalming. Messrs. BUTLER WILSON & OGLESBY'S "Tourelle, Halifax," is a charming entrance, and although only a small work is sufficient to impart character to a building. The "Design for Municipal Buildings, Plumstead," by Messrs. ARDRON, DAWSON & HOWELL, consists of three parts, adapted to the different sections, with a high tower The "Rood-loft and Screen, Barkston Church," by Mr. H. Bailey, is rather a rood-cornice than a loft, for such delicate lace-work as appears in the carving is not suited to support weight. The wrought-metal gateway is no less pleasing in character. Mr. E. J. May, in "Homeside, Wimbledon Common," shows a substantial two storeyed house with high gables, and with window openings extended to the angles of the walling. Timber panelling is mainly used in the interior. Mr. H. T. Hare's "Free Library, Wolverhampton," is mainly of red brick. There is a two-arched entrance with a great window and panels containing armorial bearings over it, but the arches appear to be too slight to support the weight above them, and this peculiarity is made more obvious by the very big compound keystones which are employed. The "Château Mauricien, Wimereux," by Mr. J. Belcher, is in keeping with a great many buildings of its class. A free Renaissance type is adopted, and heaviness has throughout been avoided. The "New Church of St. Mark, Plumstead, with Institute, Parish Hall and Parsonage," by Mr. C. H. Mileham, is an exceedingly pleasing group, and represents a combination of buildings which many clergymen must desire to imitate. The parish buildings flank the approach to the church, and increase the effect of the latter. Among the drawings on this part of the wall are a house at Harrow-on-the-Hill by Mr. L. Barrett, "Design for Cartwright Memorial Hall, Bradford," by Messrs. H. Cheston & J. C. Perkin, and "Interior of Moot Hall, Colchester Town Hall," by Mr. John Belcher.

The design for "Electra," the new building for the Eastern Telegraph Company, shows premises worthy of one of the most important mercantile institutions in the world. The lower part is arranged as offices for the convenience of the public, with a fine central entrance hall, which is sure to be one of the principal features of the building. Square lines predominate in the business part; a mezzanine floor comes next, the windows having semicircular heads; then two storeys with square-headed windows divided by columns; the attic storey is adorned with sculpture, and finally we see a cupola surrounded by an armillary sphere. Among Mr. Belcher's City buildings the new offices will be paramount. In the "Church of St George, Fordington," Mr. Caröe has sought to gain the advantage of colour in the walls by using varieties of stone in them or stone and terra-cotta. As in many modern examples, the roof is continuous, without any sign of the chancel, and there is a tower in which red and grey stone is used. To "St. Edith's Church, Anwick," by Messrs. Brewill & Baily, the only objection is the heaviness of the spire. In the "House at Northwood Park," by Messrs. Heron & Bellairs, the chimney occupies the centre of the front and is carried up from the ground to above the roof; the advantage is not evident and the design would be improved by a different arrangement. "The Font Cover for Grantham Parish Church," by Mr. W. J. Tapper, is a most elaborate canopy that must ascend almost to the roof of the building. There are several stages which are marked by figures of saints and angels, but the font itself becomes dwarfed by the cover, the cost of which would pay for the erection of a baptistery. The design for the "Wesleyan Centenary Hall," by Messrs. Banister Fletcher & Sons, is another proof of the approach to the Italian which is now in progress in London. Mr. G. H. Shackle has a cottage house at Shelford. The "House in Sloane Street," by Mr. R. G. Hammond, is another effective utilisation of a narrow site. All the window dressings and the parts adjoining are in stone, and the red brick piers become a sort of framing. Variety is therefore secured without any indication that the means were inadequate. Mr. Atkin Berry's "Bungalow, Adelaide," is of the usual Colonial type, with a very wide projecting roof. Mr. Raine's "Design for a Clock Tower" is noticeable for the introduction of statuary. Mr. Beresford Pite's "Study for a Street Front in Glass Mosaic and Faïence" is a courageous experiment. There are several rectangular panels which are filled with figures that recall Godfrey Sykes's mode of treatment, and they are connected by stems and branches. The decoration is bright, and would have the great advantage of cleanliness. The owner of a pottery warehouse would find an advantage in realising the study. Mr. Macartney's "Design for Church at Sparkbrook" is, we suppose, to be considered as of an early Georgian type; the front is very heavy and not adapted to attract worshippers. "The New Tower, St. Michael's, Bournemouth," by Mr. Oldrid Scott, does not show much invention, but a great many church people will admire it on that account. Two houses by Mr. Campbell Jones are remarkable for their large windows. The "Four Houses at Harrogate," by Messrs. Bland & Bown, form a highly picturesque terrace, but as the drawing is by Mr. Herbert Railton, he has imparted much of his own idealism to it. With more drawings from the same hand there would be a chance of the architectural room receiving visits from the public, instead of being deserted during the greater part of every day. There is a satisfactory group, "Binton Barn, near Farnham," by Mr P. H. Watson; a "New Lych-gate, Huish Episcopi, Somerset," by Mr. R. W. Paul, who also shows additions to a house in Hertfordshire. Mr. C. R. Ashbee has two adjoining houses in Cheyne Walk, in which he has been allowed to make the windows in different levels; ashlar is used below and red brick above. Mr. W. Cave has designed a formal eighteenth-century house and garden. "Piper's Hill, Byfleet," by Messrs. Niven & Wigglesworth, is a half-timbered house in a terrace, the woodwork being severely plain. Messrs. Russell, Mallows & Grocock have a design for the Plumstead Municipal Buildings and Free Library. Mr. Minty shows a cottage near Hythe, and Mr. Ayling a design for baths at St. Pancras, having a front block of offices and washhouses, and a long line of baths at a lower level. There are two lofty towers as well as a high chimney.

PAINTING AT THE ROYAL ACADEMY.—I.

In the Academy this year there are no less than four diploma pictures which to some extent are typical not only of the producers' styles, but of many other works in the exhibition. First we have Sir W. B. Richmond's *Orpheus returning from the Shades.* The artist has not been doing justice to his ability of late, and the mænad-like Orpheus waving his lyre and wildly shrieking is wanting in the antique spirit. But in that way it corresponds with other modern illustrations of mythology. Mr. Abbey's *Lute Player* is a girl in a dark crimson dress, and is suggestive of his own as well as several costume pieces. Mr. Gregory's *Après?* is a more modern figure gorgeously arrayed. The subject seems to be the same as was employed for the small water-colour drawing in the Institute exhibition, *The Inception of a Song.* If so, it is to be hoped the drawing will find some way to the diploma gallery, for without it the meaning of *Après* will be somewhat of a puzzle. The fourth is a small cabinet picture, *An Interior of Venice*, by Mr. Sargent. It is as modern as any of his portraits, for the old couple and the young couple who are found in the stately but gloomy green Venetian room might be people who are still lodging there. The interest of this picture does not, however, lie in the incident of two elderly people looking over a portfolio and a young man and woman engaged in conversation in another part of the room, but in the marvellous legerdermain which it displays. The painter as a rule prefers large canvases, and it is not easy to scrutinise the manipulation in such a work as the *Three Ladies*, which is to be found in the principal gallery. The small interior is, however, an equally remarkable example of Mr. Sargent's handling; every inch of it will repay examination.

To a great extent the majority of successful Academicians are engaged in producing diploma works from year to year. Purchasers wish to have examples of favourite artists, which are to be as characteristic as if they were intended for deposit in the almost inaccessible gallery at Burlington House. This year's exhibition, therefore, like most other previous exhibitions, is in a large measure made up of works which are familiar. Take, for example, the four paintings, *Spring*, *Summer*, *Autumn*, *Winter*, by that brave veteran, Mr. T. S. Cooper, who was not afraid to encounter the crowd on Friday. Every frequenter of the Academy has seen them or others corresponding with them under different titles many years back. There is Mr. Hook, whose works are none the less delightful for their want of novelty. *A New Coat for an Old Friend* is the customary coast scene where a man is about to apply a coat of tar to his boat, while a boy prepares the material. *Once Bit, Twice Shy*, is another of Mr. Hook's little boys, who repents meddling with a lobster. Sea, rocks and sky are old acquaintances, and everyone will desire to see them again and again. Who can recall the first of the pictures by Mr. Croft, representing some incident connected with Oliver Cromwell? Mr. Goodall finds the Nile valley as productive as ever. What is *Ocean's Surge, White as the Sea bird's Wing*, by Mr. Peter Graham, but *The Sea Gull's Home*, which is now in the Guildhall? The clefts in the rock are a little wider, but they are of the same formation; the sea is as lively and the birds are as white as formerly. We are all indebted to Sir Alma-Tadema for his Roman girls and his various marbles, but from the delight he took in making Mr. Reynolds-Stephens's statuette, *Guinevere and the Nestling*, revolve on its pedestal, we hope he is contemplating a surprise for next year by returning to Mediæval dresses with their elaborate embroideries. When the hangers this year made pendants of Mr. Marcus Stone's *Soldier's Return* and Mr. Leslie's *In Time of War*, was there not a little malice in the arrangement? For surely the gardens employed by both artists have yielded products enough, and they now require to be left fallow for a long time. The conditions of the market have no doubt much to do with the determining of subjects, but it would be an advantage if the Royal Academy possessed a censor resembling the official in Laputa Academy, and who would keep the members from taking their business too easily by knocking them on the head or hand with his bladder and peas, or it might perhaps be no less efficacious if all the adaptations of old subjects were placed apart where they could be enjoyed by their owners. It should not be forgotten that the Academy is a show, and as the whole costly establishment is kept up by shillings given for sightseeing, the public have a claim to expect enough novelties to gratify them. Give them surprises and they will throng the galleries.

Religious subjects have a right to precedence, but there are few of them in this year's exhibition. M. Bouguereau must have misunderstood English requirements when he sent over *La Vierge aux Lys*, which is fitted for a church or an oratory. There is no artist in France who has a finer sense of beauty of line, and he can apply it with equal impartiality to sacred or profane scenes. But on that account his religious works have not received sufficient consideration. His picture shows great sobriety in the colour, and the figures are suggestive of much that is not earthly. Mr. Byam Shaw's *Ways of Men* is an allegory that would need a Bunyan to be its interpreter. Christ appears as an immense figure in the background, in front is a pool which has the power of healing. Some who are afflicted come in faith to it, but others—we are afraid they are artists or poets—throw pebbles into it in order to enjoy the circles which show themselves on the surface of the water. There are also men attracted by objects of a different kind, and we see them under the influence of ambition or of love. At a time when there is such a dearth of invention this epitome of life, which is bright coloured if loosely arranged, merits respectful consideration. On the opposite wall is seen *The Lost Sheep* by Mr. A. R. Soord. It is an original interpretation, for the shepherd is bending over rocks to extricate a lamb that is below. The colouring is in keeping with the subject; the figure is clad in dark brown, but a belt of brilliant red and the nimbus keep the picture from becoming sombre. We suppose Mr. Briton Riviere's *St. George* should be included in the same class. The artist is not one of those who are content with playing on the same string. As he is possessed of invention, he takes pride to exercise it. His work is a surprise, for it would be reasonable to conclude that the prancing and frightened horse usually introduced would be the principal object. In the work as we see it, what is most important is the dragon. It has no analogy with either Raphael's or Pistrucci's; it is related rather to the marvellous python which Turner invented, and which is to be seen in the National Gallery. The combat is over, and the saint, who is in silver armour with a cingulum of red, lies supine, attended by the princess he has rescued. The horse is also on the ground enveloped in the folds of the monster, and the eyes express the torture it has gone through. Another legendary subject is seen in Mr. Stoney's *Voyage of St. Patrick.* The saint is represented kneeling on a small flat circular board which floats at sea, and he is indifferent to the risks around, for he is engaged in praying or singing loudly. The picture has a weird appearance, but what was undertaken has been creditably accomplished.

Classic mythology has inspired several works. The principal among them is Mr. J. W. Waterhouse's *Awakening of Adonis.* The picture is no imitation of a Greek work, and the Venus does not correspond with either Titian's or the Renaissance painters' idea of the goddess. We cannot imagine that so innocent and girlish a being could have inspired the Lemnian tragedy, or that she, like the antique Venus, could ever be arrayed in black funereal robes, and armed with the attributes of the Furies. The original of the Venus has posed in other creations of the artist, but she exemplifies the new classicism which eliminates from the legends everything that is terrible. Mr. Waterhouse's goddess would serve for Titania when she became enamoured of Billy Bottom. The most delightful part of the picture is, however, the group of amorini, who serve as agents in the love affairs of the goddess and the hunter. One of them, who is endeavouring to revive his torch, was never surpassed by Albano. Mr. Storey's *The Lost Labour of the Danaides* is described as typical of human life, but the "petites femmes" will be more likely to suggest the labour of one or two models in serving for such a collection of naughty beings. But they are as guileless as the Venus, and the artist has never before shown an equal power in colouring. Mr. G. S. Watson's *Prometheus consoled by the Spirits of the Earth* is another work inspired by Shelley. The victim lies on a mountain, which might be of red sandstone or granite, and he is represented as having acquired some of the properties of the crag. It is statuesque and almost Egyptian in severity; around are various spirits finely modelled, and which offer a marked contrast with the being whose sufferings have attracted them. Mr. Draper has a fine figure of Morning, called *The Gates of Dawn*, which she is opening. It is larger in size than any of his previous works, and the large mass of the golden gates is in harmony with the brilliant colouring of the rest of the work. But the two valves or portals should have been made to correspond; as they are shown a round pillar has to correspond with a square one, and vice versa. *Deus Arcitenens*, by Mr. Spottiswood Duthie, is a cabinet work which should have been in Gallery IX., but as it was just large enough to fill a vacant space it has been skied. The god is standing in the sky, shooting his arrows downwards, and, as far as can be judged, is carefully modelled. It is not easy to paint a flying figure, and much credit is therefore due to Mr. Corbet for the vanishing Eros in his *A Loving Psyche who loses sight of Love.* The god is accompanied by a flight of doves, and the unlucky Psyche is shrinking with terror. The execution enhances the idea, and the picture is one of the most interesting in the exhibition. *Una and the Wood Gods*, by John da Costa, is an illustration of a passage in Spenser's "Faerie Queen," in which Antiquity and the Renaissance were brought together. Una is clad in an Elizabethan dress, which is not adapted for wayfarers in woods, and her scared appearance at the sight of the old deities realises the spirit of the poem. Mr. A. T. Nowell's *Spring: an Allegory*, shows more regard for beauty of line than the majority of the paintings.

Two out of the four diploma works, as we said, are from models in costume, and a no less large proportion of the interesting pictures may be said to come under the same class. Mr. Watts in the *Return of Godiva* suggests a costume picture rather than realises it, for the artist never gave much attention to dress. In his painting he helps out the legend, for the lady is seen in an exhausted state after her heroic pilgrimage through her city. It is the artist's only contribution to the exhibition, and it shows a largeness of handling which all must admire. The most important of the costume pictures is Mr. Abbey's *Trial of Queen Katherine.* The subject has been often attempted. An engraving will suggest the character of Harlow's picture, in which the Kemble family, including Mrs. Siddons and other famous actors, served as models; but if compared with the interpretation of the American artist it will be evident how much we have advanced beyond those who went before us. We may say at first that as the trial took place in the Parliament Hall of the Black Friars the place was not so ecclesiastical as Mr. Abbey suggests; and secondly

Queen KATHERINE, before making the appeal, crossed the hall and spoke the words at her husband's feet, not as she is represented, far away. The principal costumes are not exact, for then the cardinals did not carry such flowing robes as are depicted. Moreover, as a canonist CAMPEGGIO did not wear the skull cap in which he is painted, but one of a more peculiar form. We cannot expect artists to be too subservient to archæology, and we admit that Mr. ABBEY'S arrangement is preferable to one which more nearly corresponded with the reality. The picture is daring in composition and in colouring. The eye is at once captivated by the two beings who are the most interesting there—that is, the queen and the Italian cardinal. CAMPEGGIO was the greatest lawyer in Rome, but when his wife died he renounced the world and entered the Church; his poverty was notorious, for the man on whose judgment the fate of the world hung lived on scraps of food which were left from other men's tables. The artist is, therefore, absolutely correct when he represents him as a hollow-cheeked ascetic, who wrings his hands in sympathy with the appeal of the outraged queen. The queen, too, is the loveliest KATHERINE of Spain hitherto painted. Even the late C. R. LESLIE'S is unequal to it in character. She is, "although unqueened, yet like a queen and daughter to a king." In her white robes she becomes an embodiment of sweet gentleness and saint-like meekness. HENRY is represented as a man who is perplexed and hardly knew what course to adopt amidst doctrinal and political storms. WOLSEY is seated beside CAMPEGGIO, and does not appear to be a pleasing character. He is simply the politician who is anxious to turn events to his own interest. On the opposite side of the daïs between the king and KATHERINE are the lawyers and scribes, who appear to be unmoved by what is taking place, and whose attention is devoted to their musty volumes and manuscripts. In the crowd behind several of the notabilities of the period are to be recognised, including Sir THOMAS MORE, whose face suggests he anticipated an exercise of despotic power of which he will be the victim. The dominant colour of the large picture is red; it prevails in the cardinal's robes, in the king's throne, in the casket, in the beef-eater's costume, in the halberts, ribbons, chairs, tassels, &c. The reds when placed side by side are not confounded, and they are balanced by the amount of black which appears in various places. The picture cannot be considered as too hot, and, in fact, the colours are ably balanced. Mr. ABBEY'S second work is the scene from "Henry VI., Part II.," representing *The Penance of the Duchess of Gloucester*. It is one of those subjects which lend themselves to the artist's composition, and it is a pity that he did not treat it like the burial scene in "Richard III.," instead of arranging it as if it were an enlargement of an illustration from a double-columned "Shakespeare." What the duchess felt most acutely was the gratification afforded to the mob by her degradation, and that is not brought out in the picture.

It seems hardly credible that the painter of the *Two Crowns* should have produced such a picture as *The Confession*, which was exhibited a few years ago, and we hope Mr. DICKSEE will endeavour to retain the position he has gained this year. Already he suggested a similar idea when he represented a young Florentine gentleman startled by a pedlar offering him a crucifix. In the *Two Crowns* we see a young monarch of the HENRY V. class returning after a victory. If it were not for the triumphal arch, it might be the victor of Agincourt entering London and receiving the congratulations of many beautiful women. The king wears the richest armour and bestrides his horse as if he were a demigod; but he unexpectedly encounters a large Crucifixion on his way, and we suppose the question is, Will his pride be humbled? The picture has a festive character, there is power seen in every figure and it must be accepted as one of the successes of the year. In *The Dream of the Knight Errant*, by Mr. SIGISMUND GOETZE, we have another example of the golden armour which is in favour this year. The knight lies on the ground partly enveloped in the gorgeous robes of an angel who is guarding him, and whose presence keeps at bay tempters who appear in the form of beautiful women. Modelling and colouring are vigorous, and the picture deserved a better position. The *Joan of Arc*, by Mr. W. ONSLOW FORD is a more appropriate figure of the heroine than is commonly seen in the Salon. There is nothing suggestive of delicacy or hysteria. We see a noble, resolute girl kneeling with a red cloak over her armour, and holding a white standard embroidered with gold. The breadth and simplicity of the treatment give promise of no ordinary ability, and the painter will find it difficult to realise the anticipations which this work will excite about his contributions to next year's exhibition. Mr. SOLOMON'S *Equipped* would serve as a companion to the last. The esquire is finishing the equipment of the knight, whose head has all the appearance of being a portrait. The armour is suggestive of genuine metal.

The *Musicienne du Silence* is an attempt in a new style by Mr. HACKER, and appears as if inspired by a study of Milanese masters. One richly clad girl reclines on the ground, while another is playing; but however true to nature, it must be allowed that the right hand and arm of the performer appear awkward. *Rings and Things and Fine Array*, by Mr. T. YOUNG HUNTER, depicts the visit of a young girl of the Elizabethan period to a cottager—a stern old lady who is not gratified by the appearance of so much finery. The subject is simple, but becomes charming by the treatment. The cottage is humble within, but the trees in blossom against the wall and the admirable light and shade make of it a beautiful object. Another and most brilliant costume piece is *The King's Garden*, by Mr. A. A. DICKSON, in which flowers and fruit enhance the beauty of the robes of the women and children, while through the portal knights in armour are seen.

"THE MAYOR OF MONTILLADO."

THE ancient Romans demonstrated their wisdom when they devised the Saturnalia. They knew very well that all the world had the failing of the lean and hungry Cassius, and that nobody could have heartsease "while they beheld a greater than themselves." Accordingly they decreed a short period of topsy-turveydom, where the slave could play the master and the fool could pose as the sage. It is a pity we cannot have any record of what the purchased assistants of the architects, painters and sculptors used to do on those occasions All those men, who were probably of Greek parentage and who acted as ghosts much better than their modern representatives, must have expressed many witty jokes and shared in many absurd burlesques. But when the riot was over things went on smoothly, and the assistants to the artists were likely to be more content for the exercise of so much license. The world has changed in various ways since that time, but the relation between employer and employed continues. It is not to be supposed that the modern architect is as great a man to his assistants and his pupils as he imagines he is to the universe, including them. During office hours it is necessary to keep up the delusion, but afterwards much is said about office affairs which is amusing. He would be an unwise architect who would become angry if he heard of those dialogues. Once upon a time he may have used similar expressions, and he knows very well he is not the only victim. It is well, therefore, that occasionally employers should be allowed to have a reflection of their character as it appears to those who work for them, and one of the advantages of the Architectural Association is in affording opportunities to some who are engaged in the practice of architecture for good-humoured banter of those who profess to be its sole representatives. Nobody should therefore quarrel if we find the architect of the Association's dramatic efforts, whether we call them burlesque, tragedy or opera, is becoming a type who is adapted to undergo as many transformations as Pierrot or Policinello. This year he is doomed to appear in love, and with the daughter of that worthy representative of municipal wisdom, Don Muria Maduro, the mayor of Montillado.

That Spanish town, which is on the Mediterranean, has its peculiarities. It is just engaged in laying the foundation-stone of a new Town Hall. The building was not required, but the authorities would not allow themselves to be surpassed by the rival town of Suezio, either in a Town Hall or in an attack of influenza, and accordingly they possessed themselves of both The building arrangements are curious. It is not clear who will pay the builders, but the Mayor enjoys the privilege of paying the architect's fees. His worship is not in a position to do so, for as he announces vocally :—

I'm sadly in need of resource,
My heart will be torn with remorse
If I find I can't pay
What I owe you to-day ;
I would if I could though, of course.

Now Don Juan Purlino, the architect of the building, perceives he is likely to be a long time deprived of his fees, but he is willing to wait if he can only marry Dolores, the Mayor's beautiful daughter. Her father is willing, but the young lady is in love with Luiz, Purlino's assistant and the son of Biero Bodega, the worthy landlord of the hotel. The architect therefore has resolved that if Dolores again refuses him he will bring an action against the Mayor for his fees, and in that way things will be made pleasant all round. Purlino, according to his own estimate, is an eligible match for any lady, for he is not only a great man like all in the profession, but, as he informs us, he is about to attain the highest rank that is available for an architect. He therefore announces his coming honours in melodious strains :

I am a well-known architect,
So treat me, please, with due respect,
For I'm the President elect
Of an honourable Society,
Because I've built both far and wide
They've asked me next year to preside—
A fact I may to you confide
Without any impropriety.

And so,
You know,
Whatever you may say,
The P. R. I. B. A.
Next year,
I hear,
When in the chair he sits,
You'll find, by gum,
He 'll make things hum,
And give the Council fits.

And when I am elected to the chair,
I shall cultivate a manner *debonair*,
Before important meetings,
I shall always lunch at Sweeting's,
And thus obtain a consequential air.
Chorus. And when he is elected to the chair, &c.

Prominence, of course, I seek,
And as I have no end of cheek,
I never miss a chance to speak—
Anything for notoriety.
If in your work you would succeed,
I'll tell you what has been my creed—
To always move, and drink, and feed
In the very best society.

I guess,
No less
Than half my jobs to-day
Were given to me that way,
Because,
I was,
Quite in the swim, you know.
I always say,
To make it pay,
You must keep up a show.

So when I am elected you will find
I shall cultivate a manner most refined ;
And my Presidential payment,
I shall spend on swagger raiment,
And establish quite a record of its kind.
Chorus. So when he is elected you will find, &c.

Like inferior men, life has its little ironies for him. Unless he constantly reminds them of the fact, people will not believe in his importance. His name appears in capitals on the hoardings around his jobs, but he is not satisfied with the advantages of that mode of publicity, and he resolves to try what sandwich men can do for him. The foreman of the Town Hall is dissatisfied with the drawings and specification. The district surveyor is always finding fault, and the County Council regulations cannot be continually evaded. The manufacturers will have the hardihood to offer liberal discounts, and are willing to pay handsomely for testimonials. There is talk, too, of a Bill dealing with illicit commissions, but that he hopes will end in smoke in the shape of cigars from enterprising firms. Meantime, his matrimonial suit has to be arranged. The father of Dolores is a philosopher who believes the main duty of a daughter is to allow herself to be sacrificed, especially by being thrown in as a make-weight with other vendable property, but his system can be best explained in his own words :—

When a man has many daughters
And he wants to get them wed,
If he can't afford to clothe them
And provide their daily bread,
Should he chance to be an alderman
Or a man of high position,
He can ask for plans of buildings,
Advertise a competition
Which is open to all bachelors,
And besides a premium
He can just throw in a daughter
As an extra little plum.

Oh ! it's certainly a very good idea,
And absolutely safe you may depend,
For his girls go off like rockets
And relieve his empty pockets,
It's a dodge which I can highly recommend.
Chorus: Oh ! it's certainly a very good idea, &c.

If you're fond of bricks and mortar
And you wish to make them pay,
I can tell you of a little dodge
That's being done to-day.
Should your jerry-built erections
Have no tenants, never fear ;
Suppose the roofs aren't watertight
And the drains are rather queer,
You can always get a tenant,
And his scruples overcome,
With a season-ticket gratis
As an extra little plum.

Oh ! it's certainly a very good idea,
And absolutely safe you may depend ;
For your houses let directly
If you work it circumspectly,
It's a dodge which I can highly recommend.
Chorus: Oh ! it's certainly a very good idea, &c.

Dolores is not dutiful in such matters and refuses to be forced into marrying the respectable Purlino. With her escapade ends the first part of the professional drama.

The disappearance of a daughter does not count for much in Montillado. One of the consequences of her flight is the re-election of her father as Mayor, which means the continuance of his responsibility for the architect's fees. Don Juan Purlino is not overpowered by the new distinction of his prospective father-in-law. He, too, has attained honours. He relates how he won the Soane and the Grissell and the Tite prizes. What is more, the king authorised him to attach the letters D.S.O. to his name, signifying that he was district surveyor in ordinary. He had acquired the art of delivering a presidential speech in any language, a feat which was more easy than was commonly imagined, for all that had to be done was to tell the reporters what language you were about to use and they put it right for you. But however versatile he might be he was not disposed to sacrifice his fees. The Mayor, when the demand was made and the threat of legal proceedings held out, said he supposed there was no use offering half the amount on account and paying the rest in monthly instalments. The proposal made the architect more indignant, for it was treating him as if he were a cheap furnishing house and employed on the hire system. The transaction was therefore reduced to a simple arithmetical problem ; 400 pesetas were to be paid at a certain hour, and if not forthcoming it was all up with the twice elected Mayor.

Meanwhile, what had become of Dolores ? In her flight she was accompanied by the faithful Luiz, whom she accepted as her spouse, but an architectural assistant however able is not everywhere a marketable commodity. So Luiz and Dolores were compelled to become mysterious minstrels and to sing for a living. They were more successful than if Luiz had kept to his drawing-board, for when, after a year's roaming through various towns, they came back to Montillado, they possessed no less than 300 pesetas. They did not abandon their occupation or disguise on their return, and Purlino became an enthusiastic patron of the girl and always put gold in her tambourine whenever it was held up to him. When money can be so easily made it does not take long to gather the difference between 300 and 400 pesetas. On the arrival of h day of reckoning Dolores and Luiz were able to rescue the Mayor, to obtain his blessing and to settle the architect's account. All the trials and troubles therefore ended with the declaration of Purlino :—

I'm afraid I'm on the losing side,
To be cheated thus quite hurts my pride ;
Though I get my fees, I lose my bride,
So you've scored off me, that's plain.
Though you have no doubt been very smart,
And of me, I'll admit, you've got a start,
Mind I don't upset your apple-cart
If you try it on again.

The humorous libretto of Mr. F. Dare Clapham afforded much harmless pleasure on Wednesday and Thursday evenings, when the opera was performed in Queen's Hall, Langham Place. The music, by Mr. Leonard Butler, who has become a practised composer, possessed the usual tunefulness. The performers acquitted themselves well, but it would be invidious to assess their respective merits when all worked so loyally together for the general amusement. Mr. G. B. Carvill appeared as the Mayor, Mr. Alfred Stalman as Purlino, Mr. S. Constanduros as Luiz, Mr. F. D. Clapham as Biero Bodega, Messrs. A. S. Vernon and G. Bailey as Carlos and Pedro (friends of Luiz), Miss Annie Roberts as Dolores. The flower girls were Mesdames Ada Yerbury, E. Jackson and Rose Webb ; the masons were Messrs. F. Carvill and Bernard Lang ; Mr. A. W. Bentham as Antonio Amillo (foreman of masons), Mesdames Sophie Tyler and Grace Wylde as Rosita and Juanita (daughters of Biero Bodega). Chorus of flower girls and masons, Mesdames E. Burn, N. Carvill, F. Clayton, J. Maude, K. Rimell, M. Tunstall, L. Webb and V. Whichcord ; Messrs. F. W. Baker, H. Banister, S. Elston, C. Harrington, H. H. Harrington, A. C. Kelly, C. Pellew, A. W. Smith, A. Smithers, R. Towers and A. H. Whichcord. The opera was produced under the direction of Messrs. G. B. Carvill and F. D. Clapham. Mr. Leonard Butler conducted.

BOTHWELL CASTLE.

On Saturday, the 5th inst, the Edinburgh Architectural Association paid a visit to Bothwell Castle and Church, and were joined there by members of the Glasgow Association. Mr. G. S. Aitken, architect, Edinburgh, was the leader. The company was afterwards entertained by Sir James King in Bothwell House, when he and Lady King were thanked on behalf of the Association by Professor Baldwin Brown and Mr. James Bruce, the president of the Edinburgh Association. Bothwell Church was then visited, where the members were received by the Rev. Dr. Pagan, who explained the work of restoration carried out by Dr. Rowand Anderson. Mr. Aitken then gave a history and description of the old building. He said :—

The first recorded owner of the barony of Bothwell was Walter Olifard, who held the position of Justiciary of Lothian in the reign of Alexander III. A predecessor of that name was a prominent baron in the reign of either David I. or William the Lion. After the death of Alexander IV. the barony passed to the important family of Moray, and was possessed by Sir Wm. Moray, who died when on parole in an English prison in 1300.

At that time the castle consisted of a tower, fortalice and pertinents, and had been taken some time before by Edward I., who held it with a garrison under the English commander, Stephen Brampton. The Scots retook it by assault after a tedious siege of fourteen months, when by that time most of the garrison were slain and the survivors at the point of starvation. The victors held it till September 1301, when Edward himself invested it with a large force, and obliged them to capitulate. Here he lived from September 17 to 20, 1301. Edward then granted the castle and barony to the famous English commander, Aymer de Valence, after whom the great circular tower was named. In 1309 Aymer de Valence fled here after his defeat at Loudon Hill, and in 1314 Sir Wm FitzGilbert received the Earl of Hereford and fifty of his men after their defeat at Bannockburn. Not long after, however, Sir Edward Bruce besieged the castle and compelled the English garrison to surrender.

After the battle of Halidon Hill, when Scotland was overrun by the English army under Edward III, it fell again into alien hands, and the king himself lived here from November 18 to December 26, 1336, and it is on record that he issued in that year fifteen writs from the castle. In 1337 it was retaken by Sir Andrew Moray, and was then dismantled. Sir Andrew was restored to the house of his fathers by King Robert the Bruce, with the title of Lord Bothwell. It subsequently passed into the hands of Archibald the Grim, who assumed the arms of the Bothwell House, and took the castle for his residence. Bothwell remained in the possession of the Earls of Douglas till 1455, when, for seeking revenge for the unkingly murder by James II. of his father, James, the ninth earl, was proscribed, and his estates transferred to the Crown. He retired to Lindores Abbey, died and was buried there in 1488, and so the line of Black Douglases came to an end. After several changes of proprietorship it returned to the Douglas family in the person of Archibald, sixth Earl of Angus, grandson of Archibald "Bell the Cat," who had received it in exchange for Hermitage Castle and Lordship of Lidderdale.

It afterwards came under the control of the Forfar peerage, one of that house building the south wing of the new Bothwell Castle, which was completed by a successor towards the close of the eighteenth century, James Playfair being the architect. It was in this completed house that Sir Walter Scott wrote "Young Lochinvar" when on a visit in 1808.

The oldest part of the ancient castle is the great circular tower constructed of very fine masonry, with detail of the Early English period. The builder must have been one of the Olifards. The chief hall had a stone pillar in the centre, from which sprang a groined roof to the octagonal sides of the tower, after the manner of Westminster Abbey chapter-house. This hall was 35 feet diameter internally; the walls of the keep were of the enormous thickness of 15 feet. There is a floor below this hall which contains the well, 30 feet deep, and above are two storeys which, if we may infer from vertical slits in the angles of the octagon and midway between these angles, must have had their floors supported by a hammer-beam arrangement of timber.

The chapel has been very fine in three groined bays with pointed mullioned windows on one side. It was probably built by the Morays. The vaulting is gone ; two bosses are lying in the portcullis room, one of them carved with the Tudor rose, so that from their date they cannot have belonged to the chapel.

The banqueting-hall is still later, very likely a work of the Douglases. It has been a magnificent apartment, with a clerestory of cusped windows at one side, and towards the south had on the same side a traceried window. The fireplace is double, with a niche above it for a statue, but without any projecting hood ; it is below the level of the present floor which rests on vaulting introduced at a later period.

The entire area of the castle is now exposed to view, although unhappily the barbican and a considerable extent of the curtain wall is level with the ground. These parts were unknown till the year 1888, when an old plan of the castle was discovered in the library of the modern mansion, showing that the castle was of greater extent than had been supposed. The Earl of Home had thereupon excavations made, which revealed these interesting foundations. The castle when complete must have been the most extensive and ornate feudal castle in Scotland.

Bothwell Church is one of the five collegiate churches of Lanarkshire, and it was founded by Archibald the Grim on October 13, 1398. It is in the form of a rectangle on plan, 55 by 22, roofed with a continuous Pointed ribbed vault covered with stone slabs. It is of four bays, with massive buttresses at each side and also at the east end. There is a sacristy on the north, having a quadripartite vault covered with a curious lean-to roof of stone slabs. The church is now attached as an independent place of worship to a larger modern church erected to the west of it in 1833 As two Norman capitals were found on excavating the floor of the old church, there is ground for supposing that there must have been a Norman nave at one time. The 1833 church superseded one that had stood from the year 718, and it in its turn may have been on the site of a Norman building. Two corbels which carried the rood-loft are at the west end of the Douglas foundation, and also two apertures on the same level close to them, which must also have been intended to receive a rood-beam ; but as they occur immediately over the apex of a window in each case, the windows have been relieved by safety arches. It has been hitherto supposed that these arches —which occur on the north and south sides—were constructed in view of future transepts, but the reason now given disposes of this idea.

The House occupied by Dante at Mullazzo after he had been expelled from Florence has lately been sold. It was in this house that the poet wrote several cantos of the "Inferno." The hopes that the Italian Government would intervene to save the venerable building from an ignominious end have not been realised. The house was "knocked down" to one Signor Guelfi for the low sum of 2,100 lire.

NOTES AND COMMENTS.

THE speeches delivered at the Royal Academy banquet of late have not been of a class which is likely to give much aid to art or artists. The Archbishop of CANTERBURY, who was entrusted with the toast "Prosperity to the Academy" on Saturday last, is a most estimable dignitary, but when His Grace has to acknowledge the misfortune of being not only a most ignorant person with regard to art, and besides is now unable to appreciate pictures at all because he has no longer the necessary power of sight, his choice as advocate was not determined by a sense of fitness. The President, who replied, had contemplated utilising the occasion in order to criticise the conduct in regard of public buildings of the County Council and other bodies. But owing to the length of the political speeches he was compelled to restrict himself to a few words about Vauxhall Bridge. He described the design for the new structure as an incongruous medley of details, culled at random from architectural text-books. The suggestion about the co-operation of an architect was, according to Sir EDWARD POYNTER, rejected through fear of offending the Council's engineer. The President thought there was no occasion for offence, for an engineer cannot be supposed to be master of an art which he has not practised. It is possible, however, that both the London County Council and the engineer would have acted differently if more tact had been shown in the remonstrances with the Council about the new bridge. It was declared that some of the architects who signed the protest had expressed approval of the alterations which were proposed by the engineer, and it was easy to interpret the inconsistency as evidence of the want of substantial grounds for the opposition to the official design.

THE limits of the extensive monastic domain in London belonging to the Dominican Friars which has received the generic name of Blackfriars are rather indefinite. In Ireland Yard, St. Andrew's Hill, which is sometimes used as a short cut from Ludgate Hill to the Blackfriars Station, remains were lately found in demolishing some small houses which are generally believed to have formed a part of the abbey buildings. On Tuesday Mr. TRUMAN STEVENS allowed several archæologists and others to examine the discovery. The arches and columns which remain are interesting, especially from being found in such a place, and may be supposed to date from the thirteenth or fourteenth century. They evidently belonged to a large structure of which the extent or purpose cannot be ascertained. The Dominican Friars were first placed in Holborn, near Lincoln's Inn, but in 1276 a new church was erected for them close to Baynard's Castle, the materials of Montfichet Castle being utilised for the purpose. For several years Parliament met in the Blackfriars. It is possible that the remains found in Ireland Yard belonged to the monastic establishments, but in Mediæval times churches and allied buildings were placed so closely together in London, the arches may have formed part of a different ecclesiastical establishment. The material used in the masonry has suffered by the lapse of time, but it is satisfactory to learn that the stones are to be preserved, and care will be taken that in the demolition they do not suffer any injury.

THE late General PITT-RIVERS rendered a service not only to archæology, but to the State, when he accepted office under the Act for the Preservation of Ancient Monuments. There were no emoluments attached to the appointment, and there were onerous responsibilities. As the owner of a great estate General PITT-RIVERS was in a position to convince other proprietors that the Act was not likely to be allowed to interfere with the rights of property. Being recognised as an authority on prehistoric archæology, his actions were not criticised as those of an official who was wanting in experience or in knowledge. He was among the earliest to appreciate the value of primitive objects as evidence of the condition of society, if such a word can be used, in different ages, and his collections are invaluable in upholding the law of development. But one of his most meritorious acts was in creating a village museum at Rushmoor, which could be taken as a model in other places throughout the country. It was made illustrative of local archæology, and as such it is more interesting than if it had been filled with a miscellaneous collection without any relation between the various items. According to the old notion of a museum there could not be too much diversity, and the result is that the majority of the museums in provincial towns are generally empty of visitors. It happened that the district of which the General's estate formed a part was specially rich in remains which testified to its occupation by Romans, Britons, Saxons and still earlier races. But there are very few districts in England which cannot be made to yield many interesting objects. General PITT-RIVERS was also an industrious writer, but his communications were intended mainly for specialists. Before he devoted himself to archæology he had attained distinction in the Army. He was born in 1827, and was the son of Mr. LANE-FOX. On succeeding to ownership of the Rivers estates he adopted the name of PITT-RIVERS.

M. PAUL DUBOIS, the sculptor, who is director of the Ecole des Beaux-Arts, having completed his statue of JOAN OF ARC, it is now being erected on a white marble pedestal in front of the fashionable church of St. Augustin, in Paris. The pedestal is placed on a substructure of grey granite. This is not the only statue of the warrior girl he has executed. In addition to the carrying out of his own commissions, M. DUBOIS has undertaken the direction of the ateliers of the late M. FALGUIÈRE, in order that the works which were in hand should be completed under his superintendence. The most important of them is the great memorial of PASTEUR; another work is the statue of BALZAC, the novelist, about which there have been so many disappointments. The memorials of BIZET and of AMBROISE THOMAS, the composers, are completed, but M. DUBOIS will have to direct their erection.

ILLUSTRATIONS.

WESTMINSTER ABBEY: TRIFORIUM, NORTH TRANSEPT. END OF TOMB OF HENRY VII, CONFESSOR'S SHRINE FROM NORTH-WEST.

AMONG the too numerous tombs at Westminster the most interesting are those of EDWARD THE CONFESSOR and HENRY VII. The former was erected by HENRY III., and was ascribed to PETER of Rome. Unfortunately we cannot judge of its original appearance, for it was despoiled by HENRY VIII. The tomb of HENRY VII. was praised by no less a man than Lord BACON, who, on concluding the history of the king, wrote :—"He was born at Pembroke Castle, and lyeth buried at Westminster, in one of the stateliest and daintiest monuments of Europe, both for the chappel and for the sepulchre. So that he dwelleth more richly dead, in the monument of his tomb, than he did alive at Richmond or any of his palaces." The tomb was the work of TORREGIANO, a fellow student and a rival of MICHEL ANGELO, but who is described in the records as "PETER TORRESANY, of the city of Florence, graver." It is not in keeping with the Abbey, or with the chapel in which it is placed, and it was the first work in the Renaissance or modern style which was introduced in the building. Other illustrations of the monument will appear.

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MANCHESTER CORPORATION TRAMWAYS.—QUEEN'S ROAD CAR SHED.

THE illustration represents a perspective view, with block plan, of a car depôt about to be erected by the tramways committee of the Manchester Corporation, in readiness for the new electric tramway service shortly to be inaugurated throughout the city under municipal management. The site contains about 6 acres of land, about 3½ acres of which will be roofed over for the reception of 250 cars. The buildings will comprise offices, store-rooms, guards and drivers' mess-rooms, workshops, latrines, foreman's house, cart-shed, stables, &c., and a portion of the site will be utilised for a permanent-way depôt. The chairman of the tramways committee is Councillor D. BOYLE, and the architect of the car-shed and buildings is Mr. J. GIBBONS, Manchester. Mr. J. M. MCELROY is general manager.

ARCHITECTURAL ACOUSTICS.—II.*

In the introductory article the problem was divided into considerations of loudness, of distortion and of confusion of sounds. Confusion may arise from extraneous disturbing sounds, street noises and the noise of ventilating fans, or from the prolongation of the otherwise discrete sounds of music or the voice into the succeeding sounds. The latter phenomenon, known as reverberation, results in what may be called with accuracy and suggestiveness residual sound. The duration of this residual sound was shown to depend on the amount of absorbing material inside the room, and also, of course, on the absorbing and transmitting power of the walls, and a method was outlined for determining the absorbing power of the former in terms of the absorbing power of some material chosen as a standard and used in a preliminary calibration.

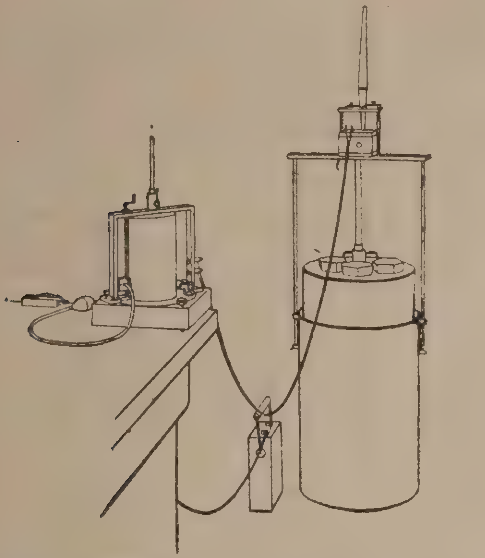

FIGURE 1. —CHRONOGRAPH, BATTERY AND AIR RESERVOIR, THE LATTER SURMOUNTED BY THE ELECTRO-PNEUMATIC VALVE AND ORGAN PIPE.

A moment's consideration shows that this method, which is of the general type known as a "substitution method," while effective in the determination of the absorbing power of furniture and corrective material, and, in general, of anything that can be brought into or removed from a room, is insufficient for determining the absorbing power of wall surfaces. This, the absorbing power of wall surfaces, is the subject of the present paper; and as the method of determination is an extension of the above work and finds its justification in the striking consistency of the results of the observations, a more elaborate description of the experimental method is desirable. A proof of the accuracy of every step taken is especially necessary in a subject concerning which theory has been so largely uncontrolled speculation.

Early in the investigation it was found that measurements of the length of time during which a sound was audible after the source had ceased gave promising results, whose larger inconsistencies could be traced directly to the distraction of outside noises On repeating the work during the most quiet part of the night between half-past twelve and five—and using refined recording apparatus, the minor irregularities, due to relaxed attention or other personal variations, were surprisingly small To secure accuracy, however, it was necessary to suspend work on the approach of a street car within two blocks, or on the passing of a train a mile distant. In Cambridge these interruptions were not serious; in Boston and in New York it was necessary to snatch observations in very brief intervals of quiet In every case a single determination of the duration of the residual sound was based on the average of a large number of observations

An organ pipe, of the gemshorn stop, an octave above middle *c* (512 vibration frequency), was used as the source of sound in some preliminary experiments, and has been retained in subsequent work in the absence of any good reason for changing. The wind supply from a double tank, water-sealed and noiseless, was turned on and off the organ pipe by an electro-pneumatic valve, designed by Mr. Geo. S. Hutchings, and similar to that used in his large church organs. The electric current controlling the valve also controlled the chronograph, and was made and broken by a key in the hands of the observer from any part of the room. The chronograph employed in the later experiments, after the more usual patterns had been tried and discarded, was of special design, and answered well the requirements of the work—perfect noiselessness, portability and capacity to measure intervals of time from a half second to ten seconds with considerable accuracy. The current whose cessation stopped the sounding of the organ pipe also gave the initial record on the chronograph, and the only duty of the observer was to give the signal when the sound ceased to be audible.

While the supreme test of the investigation lies in the consistency and simplicity of the whole solution as outlined later, three preliminary criteria are found in (1) the agreement of the observations obtained at one sitting, (2) the agreement of the results obtained on different nights and after the lapse of months or even years by the same observer under similar conditions, and (3) the agreement of independent determinations by different observers. The first can best be discussed, of course, by the recognised physical methods for examining the accuracy of an extended series of observations, and the result of such examination is as follows. Each determination being the mean of about twenty observations under conditions such that the audible duration of the residual sound was 4 seconds, the average deviation of the single observations from the mean was 0·11 second, and the maximum deviation was 0·31. The computed "probable error" of a single determination was about 0·02 second; as a matter of fact, the average deviation of ten determinations from the mean of the ten was 0·03 second, and the maximum deviation was 0·05 The reason for this accuracy will be discussed in a subsequent paper. The probable error of the mean, thus calculated from the deviations of the single observations, covers only those variable errors as likely to increase as to decrease the final result. Fixed instrumental errors, and the constant errors commonly referred to by the term "personal factors," are not in this way exposed. They were, however, repeatedly tested for by comparison with a clock beating seconds, and were very satisfactorily shown not to amount to more than 0·02 second in their cumulative effect. Three types of chronographs and three kinds of valves between the organ-pipe and the wind-chest were used in the gradual development of the experiment, and all gave for the same room very nearly the same final results. The later instruments were, of course, better and more accurate.

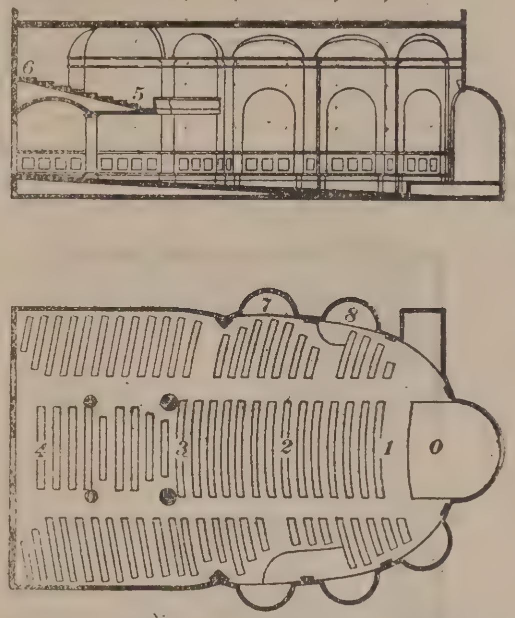

FIGURE 2.—STEINERT HALL, BOSTON. POSITION OF AIR RESERVOIR AND ORGAN PIPE AT 0; POSITIONS OF OBSERVER 1-8.

The second criterion mentioned above is abundantly satisfied by the experiments. Observations taken every second or third night for two months in the lecture-room of the Fogg Art Museum gave practically the same results, varying from 5·45 to 5·62, with a mean value of 5·57 seconds, a result, moreover, that was again obtained after the lapse of one, and then of three years. Equally satisfactory agreement was obtained at the beginning, and at the end of three years in Sanders Theatre, and in the Constant Temperature Room of the physical laboratory.

Two gentlemen who were already somewhat skilled in physical observation, Mr. Gifford LeClear and Mr. E. D. Densmore, gave the necessary time to test the third point. After several nights' practice their results differed but slightly, being 0·08 second and 0·10 second longer than those obtained by the writer, the total duration of the sound being 4 seconds.

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* A paper by Professor Wallace C. Sabine, Harvard University.

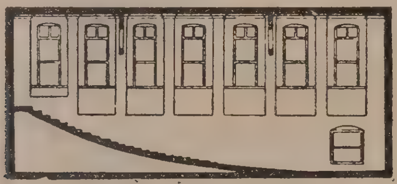
This agreement, showing that the results are probably very nearly those that would be obtained by any auditor of normal hearing, gives to them additional interest. It should be stated, however, that the final development of the subject will adapt it with perfect generality to either normal or abnormal acuteness of hearing, and therefore the above agreement by different observers, though interesting, is not in the least essential.

Almost the first step in the investigation was to establish the following three fundamentally important facts. Later work has proved these fundamental facts far more accurately, but the original experiments are here given as being those upon which the conclusions were based.

The duration of audibility of the residual sound is nearly the same in all parts of an auditorium.—Early in the investigation an experiment to test this point was made in Steinert Hall in Boston. The source of sound remaining on the platform at the point marked 0 in figure 2, observations were made in succession at the points marked 1 to 8, with the results shown in the table:—

Stations.	Duration.
1	2·12
2	2·17
3	2·23
4	2·20
5	2·23
6	2·27
7	2·20
8	2·26

On first inspection these results seem to indicate that the duration of audibility is very slightly greater at a distance from the source, and it would be easy to explain this on the theory that at a distance the ear is less exhausted by the rather loud noise while the pipe is sounding; but, as a matter of fact, this is not the case, and the variations there shown are within the limits of accuracy of the apparatus employed and the skill attained thus early in the investigation. Numerous later experiments, more accurate, but not especially directed to this point, have verified the above general statement quite conclusively.



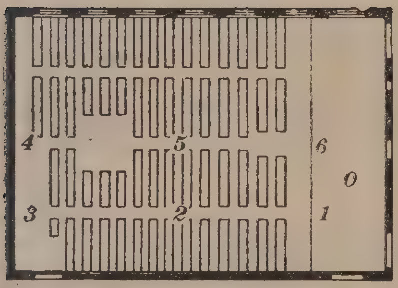


FIGURE 3.—LECTURE ROOM, JEFFERSON PHYSICAL LABORATORY. POSITION OF OBSERVER AT 0; POSITIONS OF AIR RESERVOIR AND ORGAN PIPE 1-6.

The duration of audibility is nearly independent of the position of the source.—The observer remaining at the point marked 0 in the diagram of the large lecture-room of the Jefferson Physical Laboratory, figure 3, the organ-pipe and wind-chest were moved from station to station as indicated by the numbers 1 to 6, with the results shown in the table.

Stations.	Duration.
1	3·90
2	4·00
3	3·90
4	3·98
5	3·95
6	3·96

The efficiency of an absorbent in reducing the duration of the residual sound is, under ordinary circumstances, nearly independent of its position.—Fifty metres of cretonne cloth draped on a scaffolding under the rather low ceiling at the back of the lecture-room of the Fogg Museum, as shown in figure 4, reduced the audible duration of the residual sound by very nearly the same amount, regardless of the section in which it hung, as shown in the following table, the initial duration being 5·57 seconds:—

Stations.	Duration.
1	4·88
2	4·83
3	4·92
4	4·85

In some later experiments five and a half times as much cretonne draped on the scaffolding reduced the audible duration of the residual sound to 3·25 seconds, and when hung fully exposed in the high, dome-like ceiling gave 3·29 seconds, confirming the above statement.

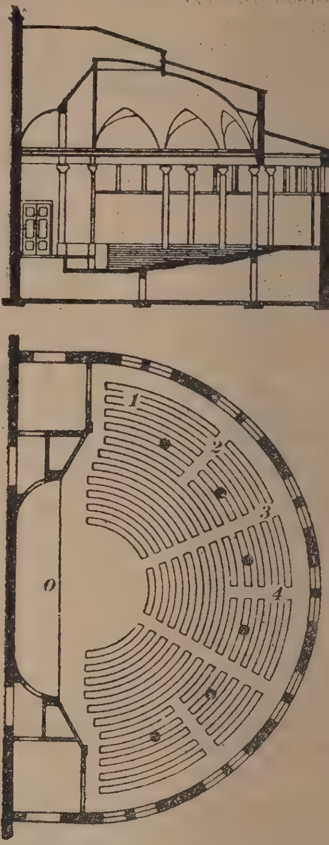


FIGURE 4.—LECTURE ROOM, FOGG ART MUS[illegible] POSITION OF OBSERVER AT 0; POSITIONS [illegible]SORBENT AT 1-4 AND IN THE DOME.

These facts, simple when proved, were by no means self-evident so long as the problem was one of reverberation—that is of successive reflection of sound from wall to wall. They indicated that, at least with reference to auditoriums of not too great dimensions, another point of view would be more suggestive, that of regarding the whole as an energy problem in which the source is at the organ pipe and the decay at the walls and at the contained absorbing material. The above results, then, all point to the evident, but perhaps not appreciated fact, that the dispersion of sound between all parts of a hall is very rapid in comparison with the total time required for its complete absorption, and that in a very short time after the source has ceased the intensity of the residual sound, except for the phenomenon of interference, to be considered later, is very nearly the same everywhere in the room.

This much being determined, the investigation was continued in the following manner:—Cushions from Sanders Theatre were transferred to the lobby of the lecture-room of the Fogg Museum; a very few were brought into the room and spread along the front row of seats; the duration of audibility of the residual sound, diminished by the introduction of this additional absorbent, was determined, and the total length of cushion was measured. The next row of seats was then covered in the same manner, and the two observations made—length of cushion and duration of residual sound. This was repeated till cushions covered all the seats. This work was at first undertaken solely with the intention of determining the relative merits of different absorbing materials that might be placed in the room as a corrective for excessive residual sound, and the account of this work is given in the introductory paper. A subsequent study of these and similar results obtained in many other rooms has shown their applicability to the accurate determination of the absorbing power of wall surfaces. This application may be shown in a purely analytical manner, but the exposition is greatly helped by a graphical representation. The manner in which the duration of the residual sound in the Fogg lecture-room is dependent on the amount of absorbing material present is shown in the following table :—

Length of Cushion.	Duration of Residual Sound.
0	5·61
8	5·33
17	4·49
28	4·56
44	4·21
63	3·94
83	3·49
104	3·33
128	3·00
145	2·85
162	2·64
189	2·36
213	2·33
242	2·22

This table, represented graphically in the conventional manner—length of cushion plotted horizontally and duration of sound vertically—gives points through which the curve may be drawn in the accompanying diagram, figure 5. To discover the law from this curve we represent the lengths of cushion by x, and the corresponding durations of sound, the vertical distances to the curve, by t If we now seek the formula connecting x and t that most nearly expresses the relationship represented by the above curve, we find it to be $(a+x)\,t=k$, which is the familiar formula of an equilateral hyperbola with its origin displaced along the axis of x, one of its asymptotes, by an amount a. To make this formula most closely fit our curve we must, in this case, give to the constant, a, the numerical value 146, and to k the value 813. The accuracy with which the formula represents the curve may be seen by comparing the durations calculated by the formula with those determined from the curve; they nowhere differ by more than 0·04 second, and have on an average a difference of only 0·02 second. (See figure 6.) This is entirely satisfactory, for the calculated points fall off from the curve by scarcely the breadth of the pen point with which it was drawn.

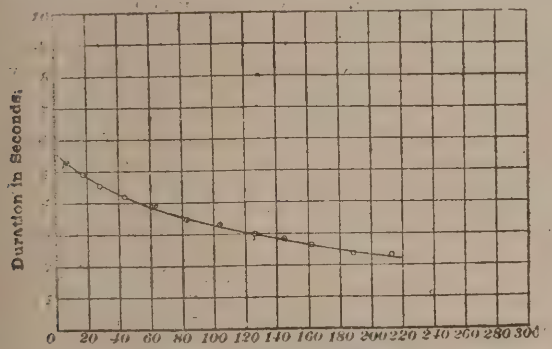


FIGURE 5.—CURVE SHOWING THE RELATION OF THE DURATION OF THE RESIDUAL SOUND TO THE ADDED ABSORBING MATERIAL.

The determination of the absorbing power of the wall-surface depends on the interpretation of the constant a. In the formula the position of a, indicating that x is to be added to it, suggests that x and a are of a like nature, and that a is a measure of the absorbing power of the bare room, which, in order to determine the curve, was increased by the introduction of the cushions. This is even better shown by the diagram, in which the portion of the curve experimentally determined is fitted into the curve as a whole, and a and x are indicated. Thus the absorbing power of the room—the walls, partly plaster on stone, partly plaster on wire lath, the windows, the skylight, the floor—was equivalent to 146 running metres of Sanders Theatre cushions.

The last statement shows the necessity for two subsidiary investigations The first to express the results in some permanent, more universally available, and, if possible, more absolute unit than the cushions; the other to apportion the total absorbing power among the various components of the structure.

The transformation of results from one system of units to another necessitates a careful study of both systems. Recently some experiments in which the cushions were placed with one edge pushed against the backs of the settees gave results whose anomalous character suggested that perhaps their absorbing power depended not merely on the amount present but on the area of the surface exposed. It was then recalled that about two years before, at the beginning of an evening's work, the first lot of cushions brought into the room were placed on the floor side by side, with edges touching, but that after a few observations had been taken the cushions were scattered about the room, and the work was repeated. This was done not at all to uncover the edges, but in the primitive uncertainty as to whether near cushions would draw from each other's supply of sound, as it were, and thus diminish each other's efficiency. No further thought was then given to these discarded observations until recalled by the above-mentioned discrepancy. They were sought out from the notes of that period, and it was found that, as suspected, the absorbing power of the cushions when touching edges was less than when separated. Eight cushions had been used, and therefore fourteen edges had been touching. A record was found of the length and the breadth of the cushions, and assuming that the absorbing power was proportional to the area exposed, it was possible to calculate their thickness by comparing the audible duration of the residual sound in the two sets of observations; it was thus calculated to be 7·4 centimetres. On stacking up the same cushions and measuring their total thickness, the average thickness was found to be 7·2 centimetres, in very close agreement with the thickness estimated from their absorption of sound. Therefore the measurements of the cushions should be, not in running metres of cushion, but in square metres of exposed surface.

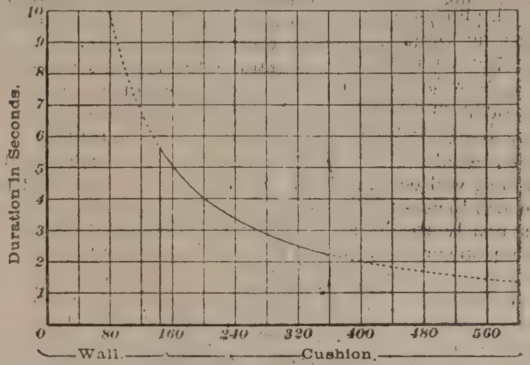


FIGURE 6 —CURVE 5 PLOTTED AS PART OF ITS CORRESPONDING EQUILATERAL HYPERBOLA. THE SOLID PART WAS DETERMINED EXPERIMENTALLY; THE DISPLACEMENT OF THIS TO THE RIGHT MEASURES THE ABSORBING POWER OF THE WALLS OF THE ROOM.

For the purposes of the present investigation it is wholly unnecessary to distinguish between the transformation of the energy of the sound into heat and its transmission into outside space. Both shall be called absorption. The former is the special accomplishment of cushions, the latter of open windows. It is obvious, however, that if both cushions and windows are to be classed as absorbents, the open window, because the more universally accessible and the more permanent, is the better unit. The cushions, on the other hand, are by far the more convenient in practice, for it is possible only on very rare occasions to work accurately with the windows open, not at all in the summer on account of night noises—the noise of crickets and other insects—and in the winter only when there is but the slightest wind; and further, but few rooms have sufficient window surface to produce the desired absorption. It is necessary therefore to work with cushions, but to express the results in open-window units.

Turning now to the unit into which the results are to be transformed, an especially quiet winter night was taken to determine whether the absorbing power of open windows is proportional to the area. A test of the absorbing power of seven windows, each 1·10 metre wide, when opened 0·20, 0·40 and 0·80 metre, gave results that are plotted in figure 7. The points, by falling in a straight line, show that, at least for moderate breadths, the absorbing power of open windows, as of cushions, is accurately proportional to the area. Experiments in several rooms especially convenient for the purpose,

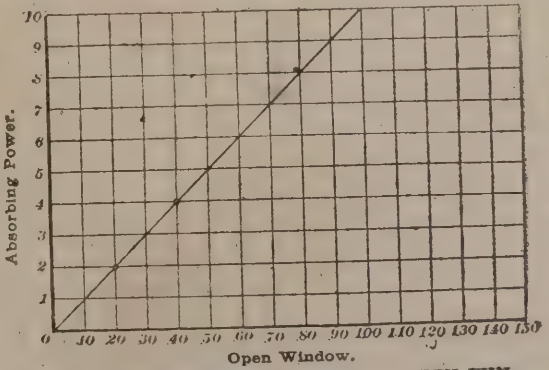


FIGURE 7.—THE ABSORBING POWER OF OPEN WINDOWS PLOTTED AGAINST THE AREAS OF THE OPENINGS, SHOWING THEM TO BE PROPORTIONAL.

determined the absorbing power of the cushions to be 0·80 of that of an equal area of open windows. These cushions were of hair, covered with canvas and a light damask. "Elastic felt" cushions having been used during an investigation in a New York church, it was necessary on returning to Cambridge to determine their absorbing power. This was accomplished through the courtesy of the manufacturers, Messrs. Sperry & Beale, of New York, and the absorbing power was found to be 0·73 of open-window units—an interesting figure, since these cushions are of frequent use and of standard character.

Hereafter all results, though ordinarily obtained by means of cushions, will be expressed in terms of the absorbing power of open windows—a unit as permanent, universally accessible, and as nearly absolute as possible. In these units the total absorbing power of the walls, ceiling, floor, windows and chairs in the lecture-room of the Fogg Museum is 75·5.

Next in order is the apportionment of the total absorbing power among the various components of the structure. Let S_1 be the area of the plaster on tile, and a_1 its absorbing power per square metre; S_2 and a_2 the corresponding values for the plaster on wire lath; S_3 and a_3 for window surface, &c. Then

$$a_1S_1 + a_2S_2 + a_3S_3 + a_4S_4, \text{ \&c.} = 75{\cdot}5.$$

In this equation, S_1, S_2, S_3, &c, are known, and a_1, a_2, a_3, &c.—the co-efficients of absorption—are unknown, and are being sought. Similar equations may be obtained for other rooms in which the proportion of wall surface of the various kinds is greatly different, until there are as many equations as there are unknown quantities. It is then possible by elimination to determine the absorbing power of the various materials used in construction.

Through the kindness of Professor Goodale an excellent opportunity for securing some fundamentally interesting data was afforded by the new botanical laboratory and greenhouse recently given to the university. These rooms—the office, the laboratory and the greenhouse—were exclusively finished in hard pine sheathing, glass and cement—the three rooms, fortunately, combined the three materials in very different proportions. They and the Constant Temperature Room in Harvard Physical Laboratory, the latter being almost wholly of brick and cement, gave the following data :—

	Area of Hard Pine Sheathing.	Area of Glass.	Area of Brick and Cement.	Combined Absorbing Power.
Office . . .	127	1	0	8·37
Laboratory . .	84·8	6	30	5·14
Greenhouse . .	12·7	80	35	4·64
Constant Temperature Room . .	2·21	0	124	3·08

This table gives for the three components the following coefficients of absorption :—Hard pine sheathing, 0·058 ; glass, 0·024 ; brick set in cement, 0·023.

ARCHITECTURE IN SYDNEY.

A GENERAL meeting of the Institute of Architects of New South Wales was held at Sydney on March 8, when Mr. John Barlow, the president, delivered the following address :—

When I last had the honour of addressing you the Institute was still floundering in financial shallows, and though the tide which is to lead us on to fortune is not yet at the flood, we confidently say that the position we occupy to-day is better than it has been for the last twelve years. If we have not achieved very much in the meanwhile it certainly has not been through any lack of energy on the part of your officers. Communications have passed between the R I.B.A. and ourselves with regard to conducting in Sydney the examinations which qualify for admission to the senior body, and though nothing definite has yet been done we hope to be in a position to hold the first of the series during the course of the year.[*] As you are aware, we made an attempt to procure from the Government a sum sufficient to provide for a travelling scholarship for students, but though the Minister was sympathetic we heard no more of the matter. Architecture, it would seem, commands too few votes ever to hope for any ministerial assistance. The matter, however, is one which it is arranged shall be brought forward at the Intercolonial Architectural Conference to be held in Sydney during this year, but at a date not yet determined upon. We are glad to announce that the Register for Draughtsmen, which we have established in connection with this Institute, has been a decided success, and has been found to be of great service both to those who require assistants and the assistants themselves It is the wish of the Council that I should give publicity to the fact that this Register is open to all—whether members of this body or otherwise, and they wish me especially to say that there are no conditions to be complied with, and that there are no fees. It is, therefore, to the interest of every assistant requiring employment that he should have his name enrolled. I may also mention that we have in contemplation a scheme for the exhibition of students' work should the students themselves give us sufficient inducement. This has been proposed by our energetic secretary, Mr. G. Sydney Jones, who is also to be credited with another suggestion which, I think, you will all agree is one of great value, and, if it can be carried out, will be hereafter a matter of unique interest. Mr. Jones thinks that the Institute should begin at once to collect plans, &c, of all important alterations to street alignments, and drawings or photographs of all buildings which are of historical or local interest. Many of these have, of course, disappeared, and others are fast disappearing, without any record being made of them. If we can secure the co-operation of those who possess old drawings, photographs and engravings, which they will be good enough to give us for the purpose of having them copied, it is not too much to say that in a few years we would possess a record which would become in time invaluable to the historian and the archæologist, besides being of peculiar interest to architects. The pity of it is that no public body here ever before undertook to collect such records as these, for old Sydney is quickly becoming a thing of the past. Two years ago, when I had the honour of delivering my inaugural address before you, I tried to show how urgently we needed a new Building Act—an Act which should apply not only to the city but in a modified way to the requirements of the suburbs The topic was not a new one. It has been referred to time after time by my predecessors, and the Press has taken the matter up at intervals, but all to no purpose; we are no further advanced in this regard than we were twenty years ago. I am sure that some of the suburban councils have devised certain building regulations by means of which they hope to cope with all local difficulties; but such tentative efforts will, I fear, serve only to retard the promulgation of a really comprehensive measure framed and administered by experts. We can hope for very little assistance from the City Council, for, as it is at present constituted, that august body has so poor an opinion of what constitutes proper building control that it has relegated its architect to a subordinate position in the city surveyor's department. As I have said before, with the experience of all the other cities of the world to guide us, we in this land of yesterday should be able to frame an almost perfect Act, adapted not only to our present requirements, but to those of the coming century. But such an Act cannot be hoped for from the efforts of any eminent counsel who may be willing to devote his spare moments to the task, even if he were to have the casual assistance of all the town-hall officials. It must be—and this fact cannot be too often insisted upon—the work of men who are not only thoroughly conversant with all our wants from a building standpoint, but who are also practically acquainted with the best that has hitherto been done elsewhere. But if this were achieved, the most perfect Act could still be rendered nugatory by improper administration; for such a measure must of necessity be elastic and capable of indefinite modification if it is to keep pace with advancing modern conditions and the new methods of construction being devised to meet them. It would be unwise, as it would be unfair, to invest any officer of a department, however capable he might be, with the extensive discretionary powers an administration like this must inevitably entail; such powers could only be delegated to a board of experts, who should be as free from departmental control as, say, the Water and Sewerage Board or the Railway Commissioners. Of the constitution of such a board and the scope of its duties I have already spoken at length on several previous occasions, but I may perhaps be pardoned for referring to the subject again by way o preface to what I am about to say. What I have advocated is this :—The appointment of a permanent advisory board of experts, who would undertake, in part, the duties now performed by the public works committee and those of the city building surveyor, and who would attend to the work formerly done by the City Improvement Board and that now being done by the Art Gallery Trustees, but above and beyond all this their chief duty would be to protect the public interests from an æsthetic standpoint. And surely some protection of this sort was never more needed than it is at present, when the public works committee has recommended the seizure of part of our domain for wharfage purposes, and are now gravely considering whether it will not be advisable to take yet another portion, nearly 10 acres in extent, for railway use. Garden Island, which was originally included in the domain grant, was klessly bartered away many years ago to the Imperial vernment, and is at present with its hideous utilitarianism rring one of the fairest prospects on God's earth. Now, it is pposed to devote more than a tenth of what still remains us of our magnificent reserve to the steamship com- nies and the railway engineers. Imagine, if you can, what e result will be—the grass and trees and flowers begrimed h smoke, the long unsightly sheds, the roar and rattle of the ins and cranes, the clang of metal, the shriek of whistles and e hiss of steam, the never-ending din of wharves and engine rds, under the very walls of our National Gallery, and over an atmosphere foul with coal-dust and vile with the reek of ease. I have, perhaps, said too much on this subject, cause I am certain that the people will never sanction such a nton and unnecessary act of pillage and destruction; but at such vandalism could ever be seriously contemplated ould be a matter of the gravest concern to us all, and it bears t my contention that Parliament in such matters should advised by men with more knowledge and fuller wers than the public works committee seem to ssess. The members of this committee are, no doubt, very estimable gentlemen, but—and I do not say disrespectfully—beyond being political partisans they ve no claim whatever to the seats they occupy. The ques- ns they are called upon to consider are invariably connected ith such highly technical subjects as architecture and gineering, and vast sums of the public money are very often pended solely on their recommendation. Yet any business m about to spend a few thousands in buildings or machinery, d needing advice on the matter, would laugh if they were ged to confer with these gentlemen, especially if large fees ere demanded for the result of their collective wisdom. Of ourse it will be contended that they are endowed with common nse, and can obtain evidence in connection with their quiries regarding proposed public works; but no amount of mmon sense will enable a man to properly assess the value technical evidence upon a subject of which he is confessedly norant. And then the manner in which the evidence is tained is utterly wrong. When the committee desires to be lightened on any subject an advertisement is inserted in the ily papers, inviting all who are competent and anxious to ve their opinion to come and do so. Now this means evoting some days, perhaps, to the study of the project under onsideration. Let us take the proposal to erect new Parlia- entary buildings as an example. No architect, however able e might be, could, without devoting many days to their study, onestly sit in judgment upon the fine series of designs sub- itted by Mr. Vernon. But even if the necessary time could e afforded the position was still one from which most men ould shrink. The person giving evidence might be actuated motives of self-advertisement, personal bias against the overnment, or a desire to befriend him. Of course, one ight also be moved by a purely patriotic purpose, and the nly valuable evidence obtained by the committee on this ccasion undoubtedly sprang from the last-named source. I r afraid, however, that as a whole the evidence was not of uch value. The system here pursued was neither fair to the overnment architect, fair to the architects generally or fair to e public, for the men most competent to speak on a subject like is would not leave their business in order that they might be able give an unpaid-for opinion, which, if it were adverse, could ardly be free from a suspicion of personal animosity, and which, any case, would savour somewhat of a breach of professional iquette. They must have felt themselves constrained to lence, and the public was therefore deprived of the benefit of eir advice. Even expert evidence thus obtained is not always eated with the respect it is entitled to, as the director of our otanic Gardens should be able to testify. The thanks of all f us who wish to preserve some remnants of the beauty with hich nature has so richly endowed this portion of our island- ntinent are due to Mr. Maiden for his spirited protest against e Woolloomooloo scheme of wharfage accommodation, which e public works committee so lately recommended, and for his ven more spirited attempt to prevent the further desecration f the people's domain by the proposed railway resumption. ut the apathy of the people themselves, and the callous ndifference of those in authority, make it almost impossible to rouse any strong feeling in an affair like this. Tennyson might ave been writing of Sydney when he penned his well-known nes :—

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[*] Since this was written a letter has been received from the R.I.B.A. notifying the New South Wales Institute that they had arranged for the examinations to be held in Sydney. All information can be obtained from the Hon. Secretary of I.A.N.S.W., whose address is Mutual Life of New York Building, Martin Place, Sydney.

> A sleepy land, where under the same wheel
> The same old rut grows deeper year by year.

f proof of this apathy and indifference were required in matters nto which no sentimentalism enters, it is surely furnished by e annual report of the medical adviser to the Water and ewerage Board published in this morning's papers. "The nspector's reports are appalling," he says, "and reveal the xistence in the city of obsolete house sanitary systems, broken ater connections, cracked pans, faulty cisterns (in some cases not provided with water), choked drains, deficient ventilation, dirty dwellings, bath wastes connected directly with the main sewer, and a general state of indifference as to keeping our sanitary system in proper working order. Although a fewer number of cases of typhoid were reported during 1899, the mortality from the disease increased by fourteen cases. Of the total number of fatal cases, 14 per cent. came from the city of Sydney. The main sewerage system of the city was one of the best it was possible to have; but unfortunately, owing to an omission in the Act, householders had for the most part shown gross apathy in availing themselves of the opportunity offered, and it was evident that sanitation would have to be forced upon the public by Act of Parliament. It was appalling to know that in our city, provided with a most excellent sewerage system, out of 22,000 houses only about 1,000 were properly connected with the sewers, and that for the most part the others acted as ventilators of the sewers, admitting foul gas to the interior of the dwelling to be breathed by the inmates. To enable the board to cope with these evils further legislation was necessary, and nothing short of a regular house-to-house inspection would ever enable those in authority to deal with individual carelessness, and to insure clean people safety against the acts of their unclean neighbours." Dr. Kendall is supported in these appalling statements by Dr. Ashburton Thompson, the president of the Board of Health. To many people the existence of such a state of things in a large city like ours will seem astounding, and to them these authoritative utterances will come in the light of a revelation. But to my knowledge the same assertions were made in a series of articles published in various Sydney papers more than nine years ago. These articles, which were founded, I believe, on a private report furnished to the Water and Sewerage Board by their inspectors, were not published by the *Sydney Morning Herald* and the *Daily Telegraph*, because, I presume, they were considered to be of too sensational a nature; but they afterwards appeared in other journals, and although some of the statements they contained may have seemed at that time to be almost beyond belief, yet they remained uncontradicted; and now a decade after a precisely similar announcement is made, in almost the same words, by the medical officer of the Water and Sewerage Board. Just think of it. Ten years of typhoid, of diphtheria and of tuberculosis; ten years of easily-preventible filth-disease and the loss of thousands of valuable lives, and this because those who are entrusted with the care of the city's health have not in all that time been able to procure the necessary legal power "owing to an omission in the Act" to enforce cleanliness and the observance of the simplest sanitary laws. But what can we expect of the people when, in a recent mayoral minute, our chief magistrate boasts that he managed to save 6,000*l.* last year by leaving the streets untended and the city dirty; and that he could and would have left it dirtier, and saved 3,000*l.* more if, unfortunately, just at this point the abominable plague had not appeared. The worthy mayor's apparent chagrin at this unlooked-for climax recalls the story of that other thrifty and ingenious gentleman who conceived the idea of training his donkey to live without food, but at the moment when he was congratulating himself that he had achieved the desired result the brute perversely went and died. And yet during a discussion last week among the members of the Water and Sewerage Board it was pointed out that the City Council has power to proceed against persons whose houses were in an insanitary condition, which the Board has not. But what has the City Council done? Occasionally the officers are stirred into action and make a raid on the slums. A few hotels are condemned and a few people rendered homeless, and then the town hall, feeling that it has done all that can be expected of it, returns to quarrel with its organist and to talk about reform. This recalls the fact that a well-known medical man lectured on the plague the other night in the town hall—one wonders if he saw the satire of it—with Sir Matthew Harris in the chair, and showed conclusively that the outbreak was due to rats, refuse and civic remissness. And surely there must be gross remissness. Listen to what Alderman Davis, of the Water and Sewerage Board, had to say at the Board's last meeting :—"Alderman Davis said that strictures had recently been passed on the Board on account of the unsatisfactory condition of some of the sewers. The President: 'This confuses our sewers with the private connections.' Alderman Davis proceeded to say that it was a fact within his own knowledge that there were a lot of places in Sussex Street which badly required inspection. The owners of these places had from time to time brought pressure upon members of the Board—he had himself been approached—in order to evade the responsibilities of making proper connections. Various excuses had been put forward. Some had said they were trustees; others had pleaded that the premises were so old that the necessary expenditure would be unreasonable. All these persons should be looked after carefully." The report goes on to state that Alderman Taylor, one of the city aldermen, be it remembered, confirmed Alderman Davis's statement.

The case appears to be much the same now as it was 250 years ago, when a Restoration poet discovered :—

Laws like spiders' webs to be ;
Little flies are quickly ta'en,
But the great slip out again.

The question of divided control is at the root of it all. The City Council has the power to do much but does little, the Water and Sewerage Board does much but has little power, and the Board of Health apparently has no power and does nothing. If an amalgamation of these various authorities could be effected under some such form as that of the London County Council, it would still do much towards making Sydney, with its superb natural qualifications, the cleanest and the finest, as it even now is the most picturesque of all Australasian cities. But to effect this everything should be done on some definite plan, so that each work undertaken would advance the general scheme of improvement step by step to a purely definite goal. I have said much to-night which may appear to some of you rather foreign to the objects of this Institute ; but it seems to me that architects, more than all others, are by virtue of their training and the exigencies of their profession fitted to take—and they should take—an intelligent interest in all that concerns the welfare of the city. Architects, as a rule, do not interest themselves in politics—though I have known some of them who aspired to the dignity of a suburban alderman—but, nevertheless, their opinions on certain public matters should have a distinct value ; and as it is only through the meetings of an Institute such as this that they can make their voices heard, I venture to place before you these views of mine on subjects which, it may be said, do not immediately concern us.

TREASURER'S HOUSE, YORK.

IN recent years, says the *Yorkshire Herald*, this house has been divided into several smaller houses, one of which was for many years in the occupation of the late Dr. Simpson, and was subsequently the residence of the late Dr. Dunhill. Miss Fairfax-Cholmeley occupied another portion, and the third house was the property of Miss Matterson. About two years ago the whole of these houses were acquired under one ownership, and an effort was made to thoroughly restore the complete building. After a great part had been pulled down still more interesting old work was found, the house presenting in its various rooms an almost complete history of each succeeding period. Mr Temple Moore, the eminent architect, who has had great experience in church building and restoration, took the work in hand and it is believed that he has, as far as was possible, brought back the building to its original state. In much of the decoration and furnishing Mr. J. L. Davenport, the well-known antiquarian, was associated with Mr. Moore. There can be little doubt that as a result the rooms have been completed so as to afford a correct idea of the indoor arrangement in the time of the Stuarts and of Queen Anne.

Coming to the history of Treasurer's House, it is recorded that William the Conqueror's first archbishop rearranged the Minster and its appointments, which were in a most decadent state, founded the offices of chancellor and treasurer and prebendaries of the church, and assigned to each of them separate estates. In all probability he also built for them suitable residences. The first treasurer was Radulphus, in 1100, and the last William Clyffe in 1538. The duties were to find lights for Our Lady's altar, take care of the treasure, copes and vestments, and provide hangings for the choir and pulpit. The value of the treasurership was—

In the king's books, first fruits . . .	£220	0	0
Tenths	23	6	8
	£243	6	8

It will be seen that the income was conveniently increased in the addition. On May 26, 1547, the Treasurer resigned his dignity and all his demesnes, manors and advowsons to King Edward VI., "Abrepto omni thesauro desiit thesaurarii munus." This may perhaps be roughly interpreted as meaning that the treasure having ceased to exist, the office of treasurer ceased with it. Edward VI. granted all the possessions to the Protector Somerset, who sold them to Archbishop Holgate for 200 marks, including the Treasurer's House. Archbishop Holgate, by his will in 1555, devised to be sold the Treasurer's House, and with part of the proceeds founded Archbishop Holgate's hospital at Hemsworth, near Pontefract Nicholas Heath, Queen Elizabeth's first archbishop, purchased the house from Archbishop Holgate, and at his death it was sold in 1568 to Thomas Young, archbishop, who devised it to his widow and son George in tail male George Young was knighted by James I. on July 23, 1603, at Whitehall. He seems to have been a favourite of the king's, as His Royal Highness and Lord Sheffield (the President of the Council of the North, and Commander of the *Bear* the repulse of the Armada) dined with Sir George Young at t Treasurer's House, and made eight Yorkshire knights, the kin "laying" at this time at the Manor, now the School for t Blind.

Sir George Young's father was probably then occupyi the archbishop's palace in the Minster Close, now pulle down. The Deanery Library is the only part of this pala remaining. The house at Archbishop Young's death passe into the hands of Sir William Belt, 1648, and in Cromwell time to Lord Fairfax of Denton, and subsequently in the tim of Charles II. to Mr. Ayslaby, of Ripon, an ancestor of t Robinson (now Marquis of Ripon) family. Mr. Ayslaby die a tragic death, being shot dead on Easter Sunday, 1675, b Sir Jonathan Jennings, for locking out all night Miss Ma Mallory (daughter of Sir John Mallory of Ripon), who wa staying on a visit at the Treasurer's House. She had been wit her host to a ball given by the Duke of Buckingham, wh married Lord Fairfax's only daughter. The Lord Mayor an Corporation received James, Duke of York, in Mr. Ayslaby' house in 1679.

The fireplace and the back mullion windows of the banque ing hall are about the Henry VII. period, and might have bee put in by the treasurers or by Archbishop Holgate when h bought it from the Duke or Somerset. These mullions hav been bricked up for 198 years, and have only recently bee exposed. The stone carving in the frieze of the banqueting room is Jacobean, and was probably covered at a later date b panelling, as the panel marks were found. The tapestr drawing-room is perhaps Charles II. The panelling an tapestry of the dressing-room was found under the wall-pape and is Jacobean.

After 1698 the house passed by purchase to a Mr. Squire who redecorated much of it in the Queen Anne style. The large drawing-room is of this date, but the main stair and the large bedrooms are later—probably George I. The dining-room is about 1770, by or after Kent. The Treasurer's House was often divided, and passed through many hands. Viscountess Preston, whose ancestors lived at Nunnington Hall, and which family is now, we believe, represented by Sir Reginald Graham, of Netherby, lived here. Her husband was attainted in the rebellion of 1715. Amongst its owners were Jacques Sterne, archbishop, who built the drawing-room to the end of the gallery ; Lord Winchilsea, Henry Willoughby (Lord Middleton), the Morritts of Rokeby, the Barstows, Cholmeleys, and many others. The banqueting-hall is late fifteenth or early sixteenth century, but the upper part was made higher and another room put on by Sir George Young about 1650. He probably added the Classical façade in the Jacobean style. The Gothic gable in the court at the back is part of the early house ; the other gables were altered later. A MS. in the British Museum shows all the gables pointed. The basement has two doorways and a fireplace, traces of the very early building, and a fourteenth-century stone head of Queen Philippa was found in the excavations. It is now in the hall. The remains of some Roman columns, as well as the complete road which passed where the Minster now stands have been uncovered, and a Roman urn and skeleton with bronze bracelet were found. The house is one of the few that exhibits architecture from the time of the Romans through the eleventh, twelfth and fifteenth centuries down to George III.

SOMERSET ARCHÆOLOGICAL AND NATURAL HISTORY SOCIETY

UNDER the auspices of the Axbridge branch a party of members and friends of this Society visited Bristol on Saturday afternoon. Mr. Jackson-Barstow (president), and Mr. Ernest Baker (hon. sec. and treasurer) accompanied the party, and Lieut.-Col. J. Bramber acted as cicerone.

The Temple Church was the first meeting-place, and visitors were informed that the boundary of the city extended at one time no further than Bristol Bridge, to the exclusion of the marshy plain at Temple, and amongst the ditches that drained the plain there is still in existence the "law dyche" running behind some houses which line Victoria Street. The church's association ages ago with the Knights Templars was recalled, the building dating back to the twelfth century, whilst it still possesses columns that were distinctly fourteenth-century examples—a period of which there is little representative work in Bristol. The irregularity in the tower was attributed to the marshy foundations having given way, this ruthlessly sweeping aside a number of interesting stories that had obtained currency. The magnificent iron screens flanking the choir stalls and an exquisite candelabra at the east end were inspected, and attention was directed to the chapel granted to the Company of Weavers "for their use for ever." And the tale was told of an interruption to service that was said to have followed the re-introduction of the Mass by Queen Mary, the disturber of the ervice being handed over to the police and burnt on St. ichael's Hill. Col. Bramble, referring to details of architec- re—and these were points upon which he gave considerable formation in each of the churches visited—put in a plea for ving the history of a church left in a church for the adequate eservation of ancient treasures, and this met with ready proval from his hearers.

Next a visit was paid to the crypt of St. Nicholas, tradition- ly the ancient cemetery of the original church founded in e reign of Canute the Great, rebuilt in the time of Edward III, id used by the fraternity of the Holy Ghost as a chapel in 503. The crypt possesses twin naves. Part of it is late irteenth-century building, and it is conjectured that the emainder is more modern by a couple of centuries. An tension of the crypt reached towards Bridge Street, and over there used to stand one of the city gates, supporting the ancel of the church much in the same way that the city gate, ith the tower of St. John's Church upon it, spans Broad treet. While the visitors were viewing the crypt, the vicar of . Nicholas (the Rev R. L. Murchison) joined them and spoke few words of hearty greeting.

A walk through Bridge Street took the archæologists to St. eter's (City), and on the way they had a glimpse of the huge himney which the Tramways Company are erecting at their lectrical power works at St. Philip's. Before going to St. eter's Church they had, of course, to make a call at the enerable building adjoining—at different times mansion, mint, orkhouse, and still useful in its old age, serving as the head- uarters of the Bristol Board of Guardians. The chairman of e Board, Mr. S. Lloyd, and the clerk, Mr. J. J. Simpson, eceived the visitors. The ornate board-room of St. Philip's ospital dates from 1612, and in 1696 the building had the istinction of being the first workhouse in England. In many n old deed it is described as the mint, although it was used r such purpose for only two years. When cholera raged in ristol the premises were so crowded with patients that it is said here were as many as seven put in one bed; and at the time of e Bristol riots the place was used as a mortuary for seven bodies, ve being of persons who lost their lives through fire. Treasured s mementoes of the riots are a set of constables' truncheons, hich are believed to have been used in 1831. They are horter than the modern police staff, with brass heads and ather thongs attached. It was explained to the visitors that e Guardians are now practically crowded out of their historic oard-room, and that they are building for themselves a fficiently commodious apartment close at hand. It will be in armony with the existing board-room, which with its gorgeous replace, its oak panelling, its stained-glass window and its chly decorated ceiling, will remain untouched. St. Peter's hurch was described to the company as a typical old city difice. Its Norman tower, its Classical altar-piece and its laborate memorials to worthies of past ages claimed special otice, whilst in the vestry was set out a collection of treasures, hich included a pre-Reformation Host box, plate dating from 570, and banners faded with age.

There had been passing references to Bristol Castle, and ome of the visitors could not resist the temptation of exploring astle Green close by to see for themselves the fragments of rchway and wall that still mark a memorable site. The detour as not in the official programme, and folks who had followed s instructions, and made straight for St. James's Church on aving St. Peter's, had some misgiving as to whether they had ot gone astray. However, a little delay and an explanation ut matters right, so that undisturbed thought could be given the church with its Norman nave, flanked by north aisle and outh aisles, and to the remarkable specimen of Anglo-Norman rchitecture presented at the west front. After tea at Stuckey's estaurant in Wine Street there was time for seeing yet one ore church, and half an hour was spent at St. John's, Broad treet. The crypt was described as unique; and in the church otice was directed to the fact of the sacristy being east of the hancel, to the hour-glass being poised close to the pulpit, and the very fine font and west gallery.

TESSERÆ.

The Capital as a Distinguishing Feature.

IN the system of the Five Orders it is commonly and not incorrectly understood that the Doric entablature in the ossession of the triglyph gives a character to the column which ustains it, insomuch that a column of Tuscan proportions, if urmounted by an entablature having a frieze with triglyphs, ould at once become Doric. This, however, is an inversion f the proper rule of procedure, and is an institution of the alladian school for the protection of the identities of Tuscan nd Doric: it is not so in the Grecian orders to which Tuscan s a stranger. In the Grecian Doric the presence or absence f the triglyph does not affect the identity, though it does the ompleteness, of the order; and hence we have instances not a few in which antæ and columns of that class are surmounted by an entablature destitute of triglyphs and possessing only mutules and guttæ. Assuming, for a moment, such an extravagance as the placing of a Doric entablature upon an Ionic column, the Palladian rule would probably require the mass produced to be called Doric; while the Greek would certainly proceed upon the right principle of designating the whole from the character of the column and name it Ionic. With regard, further, to the Ionic and Corinthian orders as executed by the Greeks, it is evident from existing remains no less than from the testimony of Vitruvius that their entablatures were used indiscriminately, that is to say, that the Corinthian order did but receive the more ornate kind of Ionic entablature, with dentils in the cornice, and perhaps an increased degree of lightness and finish in the mouldings apportioned to the decorativeness of the column. Concluding, therefore, that the essential differences of the orders are not to be looked for in their entablatures (at least so far as the architecture of Greece and of Vitruvius is concerned), we are left to the examination of the columns respectively. In these the capital is, of course, the feature which most prominently claims attention and confers distinction, but is it the exclusively distinctive feature? We apprehend that a consideration of the remaining members will show that it is so. The base is not a peculiar characteristic of any order, for in the Grecian remains there is no generic distinction between the base of the Ionic and that of the Corinthian column; while in the Palladian system the latitude allowed is yet greater, insomuch as the so-called Attic base is found applied indiscriminately to all the orders except the Tuscan Neither can the presence or absence of this member prove more than does its specific form, for in the Doric order, it is wanting in the Grecian, while it is retained in the Italian examples; and, again, it is absent from the decorative order of the Athenian Tower of the Winds, which is generally called Corinthian, no less than it is from the simple Doric of the Parthenon. Neither, again, is it the number of diameters allotted to the height of the shaft of the column by which its denomination can be at all determined, since upon such a principle the Greek and Italian Doric must be considered as two distinct orders, a first and third, with the Tuscan occupying the place of second between them; while the Italian Doric would scarcely be distinguished from the order of the Tower of the Winds, and still less would the Corinthian from the Composite, the general proportions of the shafts being in these cases nearly or quite identical. Besides which it is hardly necessary to remark that even in the Grecian remains, and much more in the Roman, so much latitude prevails that the proportions of columns of one denomination are constantly found approximating to, and even entrenching upon those of others, so that we may produce examples of Dorics as tall as Ionics, and of Corinthians shorter than either. The truth is, in this matter, that the only judicious rule is to proportion the height of the column to the greater or less degree of finish and of lightness bestowed upon its most prominent feature, the capital; for we do not at all require the discernment of association to discover the manifest unfitness of a Grecian Doric capital for a Corinthian shaft of ordinary height, or vice versa. We presume that no person will look further than to the members already noticed for the classification of an order, or revert to stylobates, pedestals, attics, &c., as having anything to do with that point, or as constituting, indeed, any part of an order. We are therefore left to notice the capital as forming the only proper characteristic of any specific order; as being that which, while it engages to itself the chief attention, ought to suggest alike the proportions of the shaft, the character of the base and the degree of ornament to be bestowed on the entablature.

Norman Walling.

It was the opinion of Sir Christopher Wren, when taking down the old Roman cathedral, the predecessor of the present one of St. Paul's, that it was built on the remaining foundations of the more ancient Saxon church, as he found them composed of rubble and very hard mortar, well mixed together. We have not, in Britain, any walls equalling in thickness the cyclopean walls of Greece and Latium; but, nevertheless, we have still some remains that will not disgrace the name of our ancestors, in point of stability or ponderosity of walling. The Roman walls of Richborough are 13 feet in thickness; those of Porchester Castle are 12 feet thick; Norwich Castle, 11 feet; and Conisborough, 10 feet; all of which are of the Saxon era. Of the Norman era, we have the keep of Tunbridge Castle, built by Richard de Clare, in the reign of William Rufus, 12 feet thick; the keep of Rochester Castle, built by Gundulph, 12 feet thick; and numerous others, some of greater magnitude and decreasing down to 7 feet, as at Lewes Castle, and even of less dimensions. Many of the ancient walls were formed of a species of concrete, by having a framework, consisting of two vertical ranges of boarding a few feet high, and as far apart as the intended thickness of the wall; into it were thrown the usual components of sand, flint, pebbles and other stonework and hot lime; which, after a short time, becoming sufficiently hardened, the framework was removed and another portion added in the same way. This was principally used in the low fence walls surrounding rich abbey gardens, but was also employed in more important works, as at the walls of Aldborough Church, which are supposed to have been done in this manner, and are formed of round stones and cement. Piling, among our ancestors, was also much used, Pevensey Castle being on large piles, which are covered with immense slabs. Timber was often worked into the walls of foundations, as we see at Tunbridge Castle, in the manner of modern bond. Ingulphus, speaking of the monastery of Croyland, Lincolnshire, which was built on a marshy foundation, says that piles of oak and ash were driven down, and earth and sand well rammed into the interstices.

Greek and Roman Craftsmen.

The artisans of Rome were citizens, and voted in the comitia, and the Greeks appear to have made still fewer distinctions than the Romans between the liberal and the mechanical arts, and between artists and artisans. In Greece every artisan who excelled in his calling could look forward to his name being immortalised as well as that of the most distinguished artist. We have handed down to us the name of Architeles, a famous stone-cutter, who distinguished himself in the art of hewing out columns; and in the Isle of Naxos statues were erected to Bizas, who first formed the Pentelicus marble tiles to cover buildings. The names of several other artisans of different kinds have also reached us, and many works and modes of working now practised have taken their names from that of the workman who invented or perfected them.

Anglo-Saxon Runes.

When we speak of runes we intend a certain alphabet or set of alphabets; but in this we attach a very confined and merely conventional signification to the word rûn, which it did not properly bear among the nations whose letters we denote by it. Its original meaning is strictly that of mysterium, a secret; hence the privy counsellor of a prince is called his rûn-wita, e secretis, his secretary, the person who knows his secrets (Beôwulf, l. 2650) And so the verb rŷnan, which is derived directly from it, means to whisper, to tell secrets, a sense which we still retain under the corrupt form to round in one's ear. So also rûna denotes a whisperer, but in its far earlier and truer use a magician, one who knows or practises secret arts, in which sense it is found in the compound word hel-rûna, Beôw. l. 324 (Old Germ. helli-rûno; and similarly Old Germ. helli-rûna, ars magica. Docen. 218, b. Glossæ Florentinæ, 982, b.), in the Aliorunæ of Jornanthes, and the Alraun of modern German superstition. At what period the German tribes first possessed letters of the alphabet, whether invented by themselves or derived from some other race, in times of which history is silent, it would perhaps be hopeless and now would certainly be useless to inquire. It is enough that they had them when those tribes first came under the notice of the Romans. Speaking of the priestesses or prophetesses of the Germans, Tacitus says:—"Sed et olim Auriniam et complures alias venerati sunt, non adulatione, nec tamquam facerent deas." Now this word Aurinia, which Tacitus naturally took to be the proper name of a woman, and which has always been so construed, is in fact no more than the general appellative of a prophetess or sorceress, in short Alrynia; according to the passage already alluded to in Jornanthes, who relates that Filimer expelled from his kingdom "quasdam magas mulieres, quas patrio sermone Aliorunnas cognominant." In confirmation of which it may be added that Veleda, the name of Civilis's high-hearted associate, may also be only a general appellative, closely connected etymologically with the old Norse Vavlu (Völu), a prophetess. But if in the time of Tacitus the general or even particular name Alrynia was found, it is sufficient evidence of the existence of that from which the word was derived, namely, rûn, both the thing itself and its especial use for magical purposes. But still at this period, and till far later times, the knowledge of the letters and their powers was confined to certain classes only of the people. History and tradition assure us that they were known to that family which furnished the Teutonic tribes with priests and kings, and to both old and young among the women—the sacred sex. Yet to many even of these, and to all but these, they were in themselves mysterious and awful symbols, and hence the name given to them, viz Rûn-stafas, mysterious staves (Beôw. l. 3388) answering to the later Bôcstafas, or Latin characters, the modern German Buchstaben. In times when there was neither pen, ink, nor parchment, the bark of trees and smooth surfaces of wood or soft stone were the usual depositories of these symbols—hence the word wrîtan, now to write, but whose primary signification was to cut or carve (Beôw. l. 5406). Hence also Stafas, the smooth sticks on which they were cut; and hence even the word Bôc, book, which recalls the beechen tablets in which they were inscribed. The earliest runes, ther were cut in surfaces of stone and wood. The former cas would comprise inscriptions on rocks, gravestones and weapons the latter would be confined to the wooden tablets or stick used in casting lots and divination.

Correspondence

St. Stephen's School.

Sir,—In regard to your excellent reporter's remarks on th R. A. drawings, one cannot help being somewhat amused at th "hardship" to the boys of a National school in having t ascend 32 feet from the street by sixty-four 6 by 12 steps, i short flights. We have hardly reached the point of providin them with lifts. I have occasion to visit the schools from tim to time, and have never yet seen any signs of youthful degeneration of the calf from over-muscular exertion on their part.—Believe me, yours sincerely, A. Bolton.

2 The Sanctuary, Westminster, London, S.W.:
May 4, 1900.

P.S.—I wish I had no more steps to my own office.

GENERAL.

Professor Flinders Petrie will read a paper before the Society of Arts on Wednesday next on "A National Repository for Science and Art."

The Medals in the Salon in the Section of Architecture have been awarded to the following exhibitors:—First class—MM. Despradelles, Recourra; second class—MM. Bigot, Patouillard, Dourgnon, Calderini; third class—MM. Capron et Renevey, Dehaudt, Martin, Blanchard, Demur, Gromort; honourable mention—MM. Deneux, Bruel, Chaillier, Mehu, Béraud, Bois, Grandjean, Radel, Fournez, Montel.

A Memorial in the form of a large slab of granite from the Mourne mountains has been placed over the reputed grave of St. Patrick in the cathedral yard at Downpatrick, completely covering the site. Upon its surface is incised an early Celtic cross and the name "Patric" in Irish characters. This is in keeping with the century in which the saint died. All parties are contributing to the work, which has entailed considerable expense.

Princess Henry of Battenberg has laid the foundation-stone of St. Barnabas Church and schools, Portsea. The building, which will cost 7,000*l.*, was designed by the firm of Sir Arthur Blomfield & Sons.

The Goldsmiths' Company have made a grant of 1,000*l.* to the fund being raised for founding the new Anglican Bishopric of Southwark.

The Albert Medal of the Society of Arts was on Tuesday presented by the Prince of Wales to Sir William Crookes.

New Schools are to be erected in connection with Christ Church, Westminster, at a cost of 17,000*l.*, which includes all the expenses.

Dr. Johnson's Birthplace, in the Market Square, Lichfield, has been sold to the City Council for 250*l.* It is to be used as a Johnsonian Museum.

A General Meeting of the Royal Institute of Painters in Water-Colours, Piccadilly, was held on Wednesday evening, when the following gentlemen were elected members:—Mr. C. A. Shepperson, Mr. Hal Hurst, Mr. Winter-Shaw and Mr. Charles Dixon.

The Prize of 10*l.* given by the Ironmongers' Company was gained by Miss Florence H. Steele for a pilaster for faïence; and the principal prizes presented by the Founders' Company have been awarded to Mr. Henry C. Eyres for a vase and cover, and to Mr. J. Alfred Lemon for a casting (portrait medallion).

The Annual General Meeting of the Liverpool Architectural Society will be held on the 21st inst., when Mr. E. A Ould, president, will deliver a closing address.

In the Competition for the Walsall Municipal Buildings the five selected designs recommended by the assessor (Mr. J. Macvicar Anderson) and approved by the Council are:—(1) Mr. James A. Bowden, 63 Finsbury Pavement, E.C.; (2) Messrs. Cackett & Burns Dick, Newcastle-on-Tyne; (3) Mr. Sydney W. Cranfield and Mr. Henry John Potter, London; (4) Mr. J. Glenn Gibson, London; (5) Mr. William A. Pite and Mr. R. S. Balfour, London.

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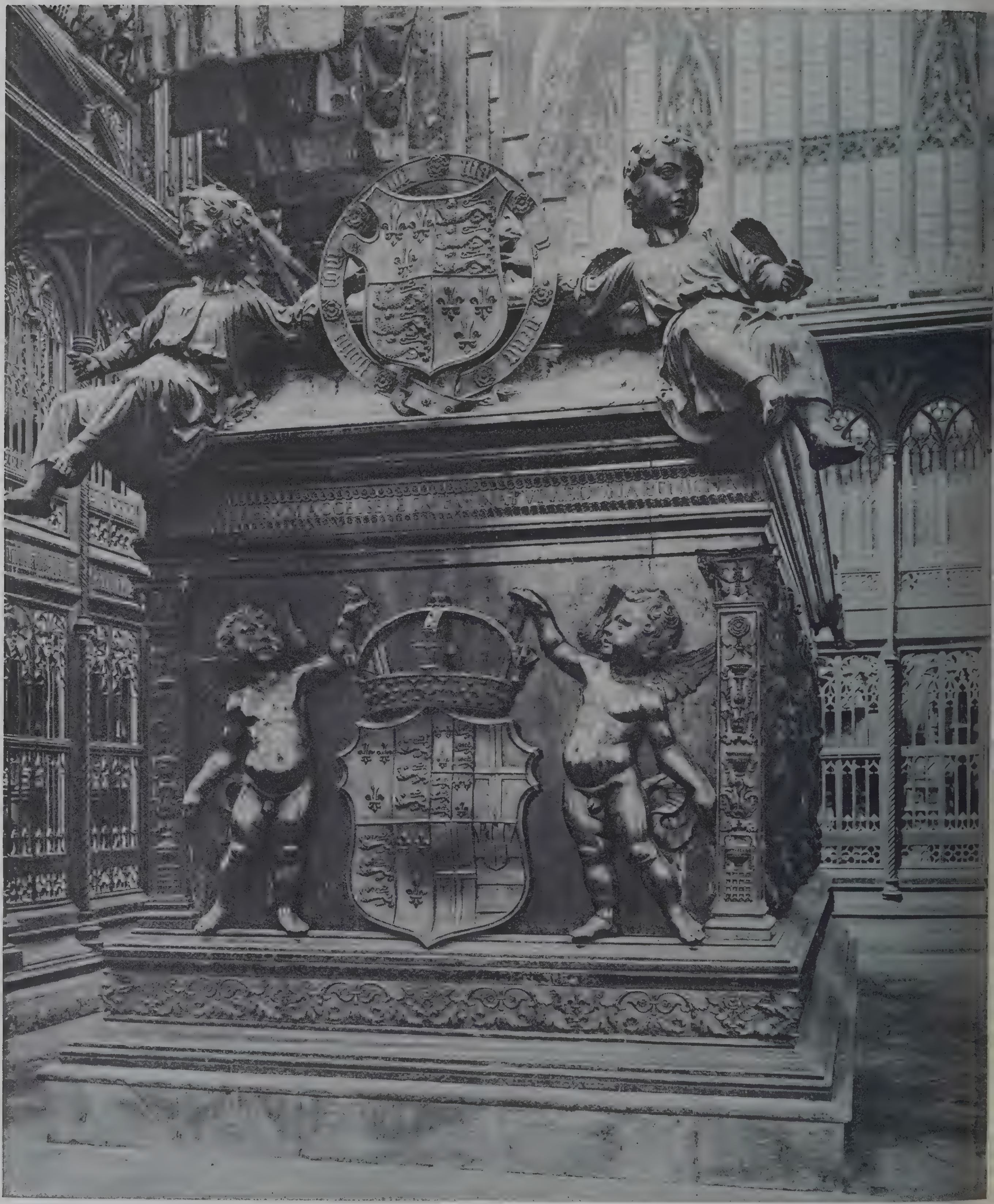

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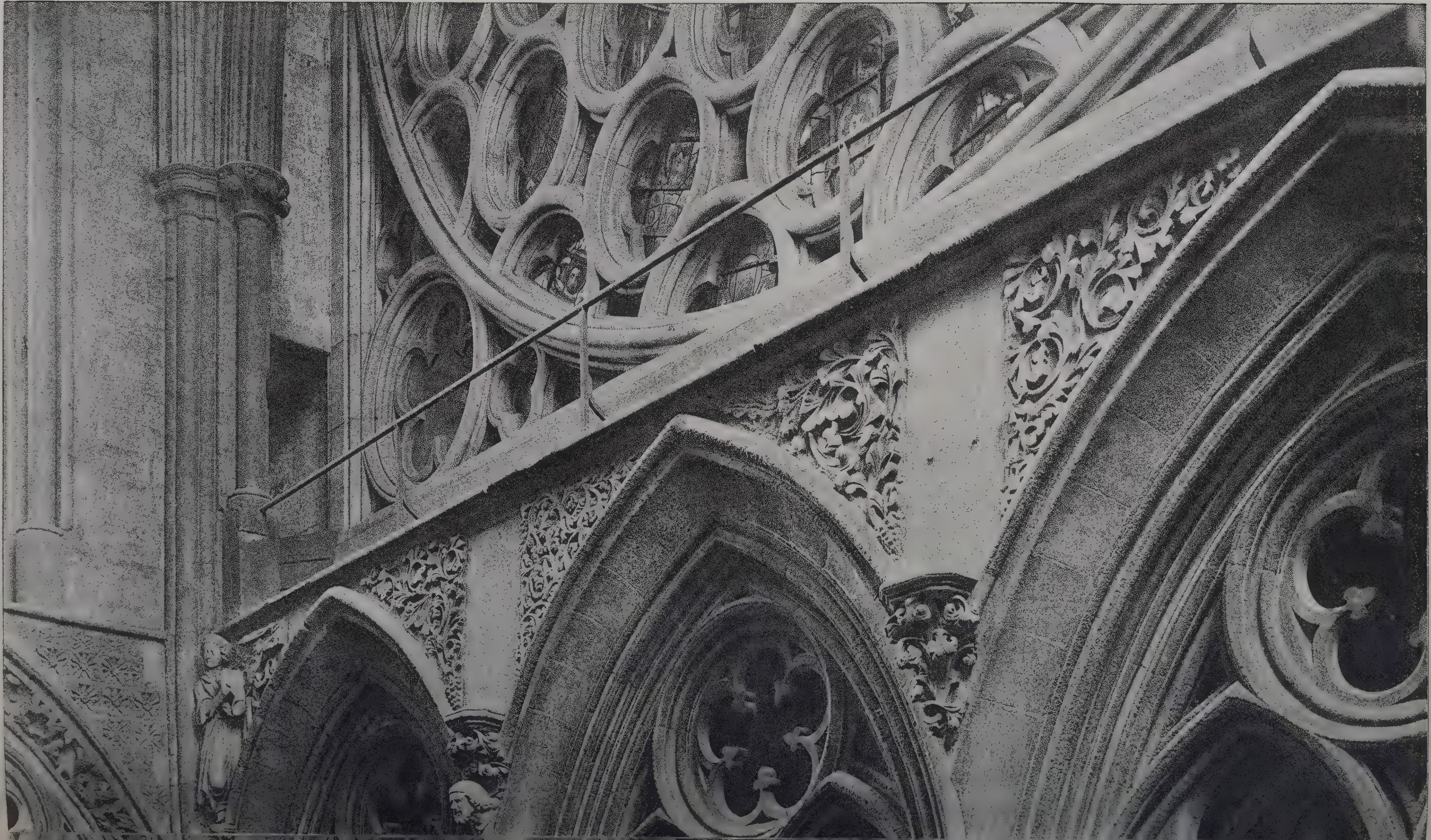

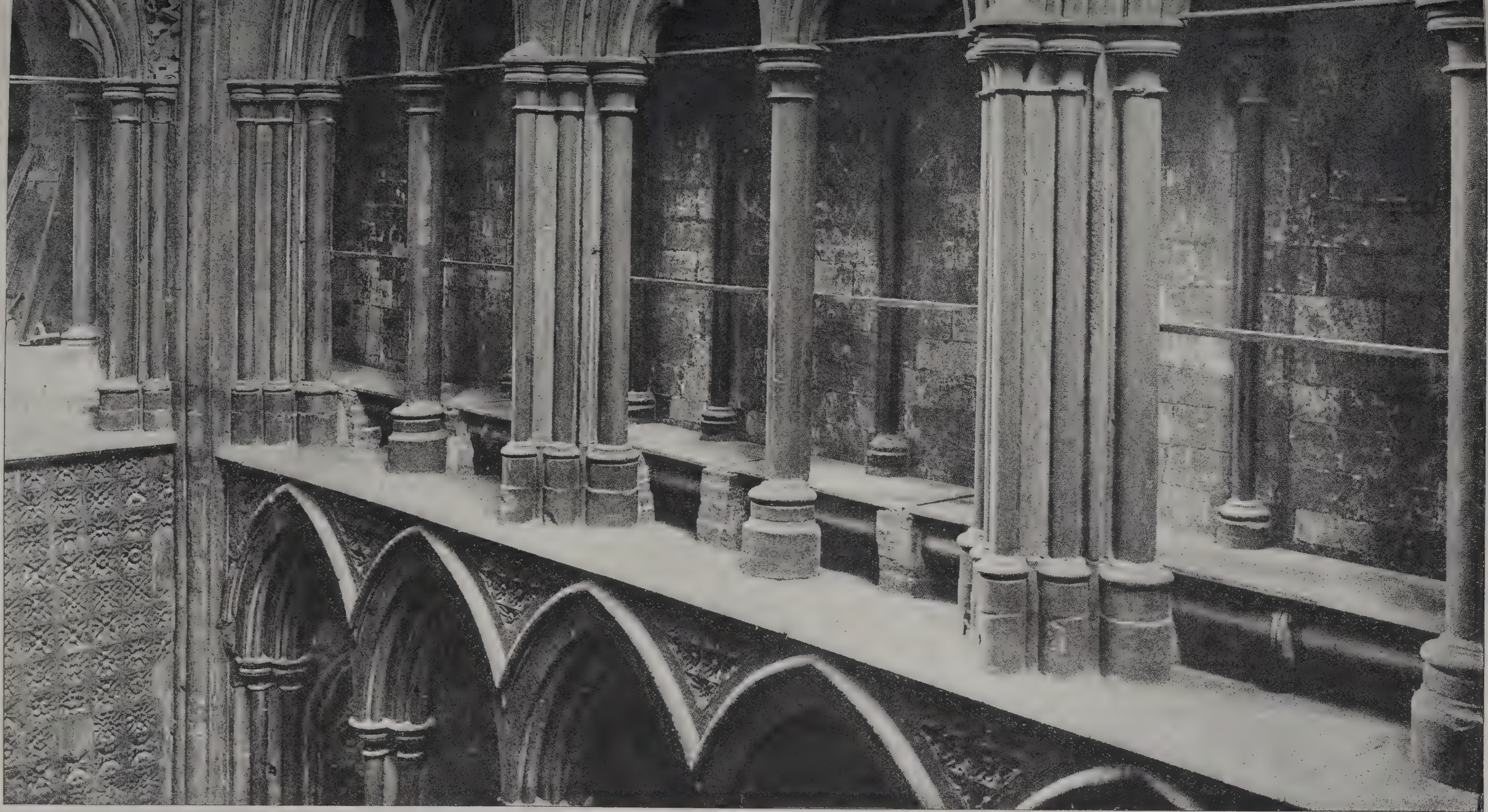

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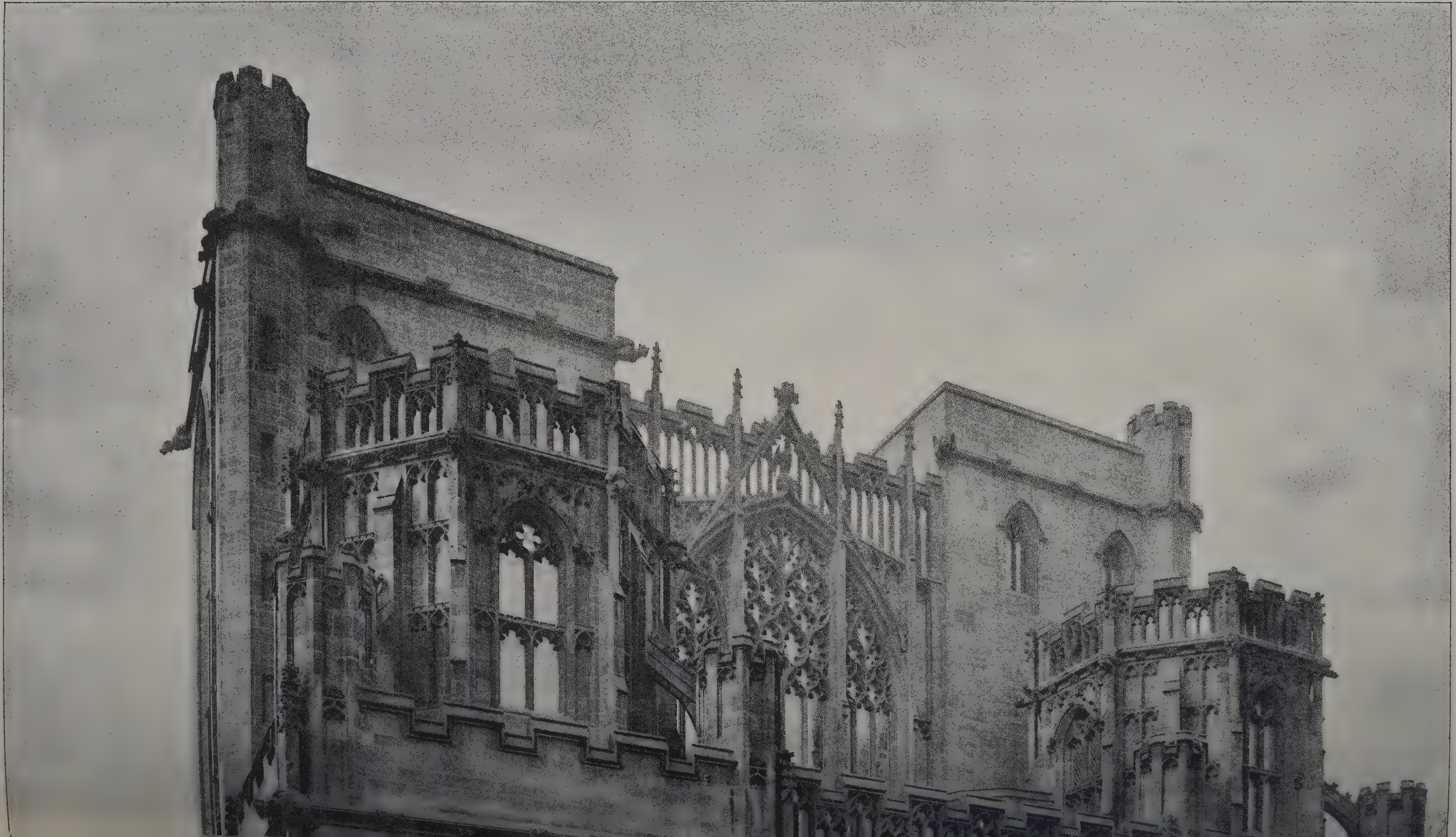

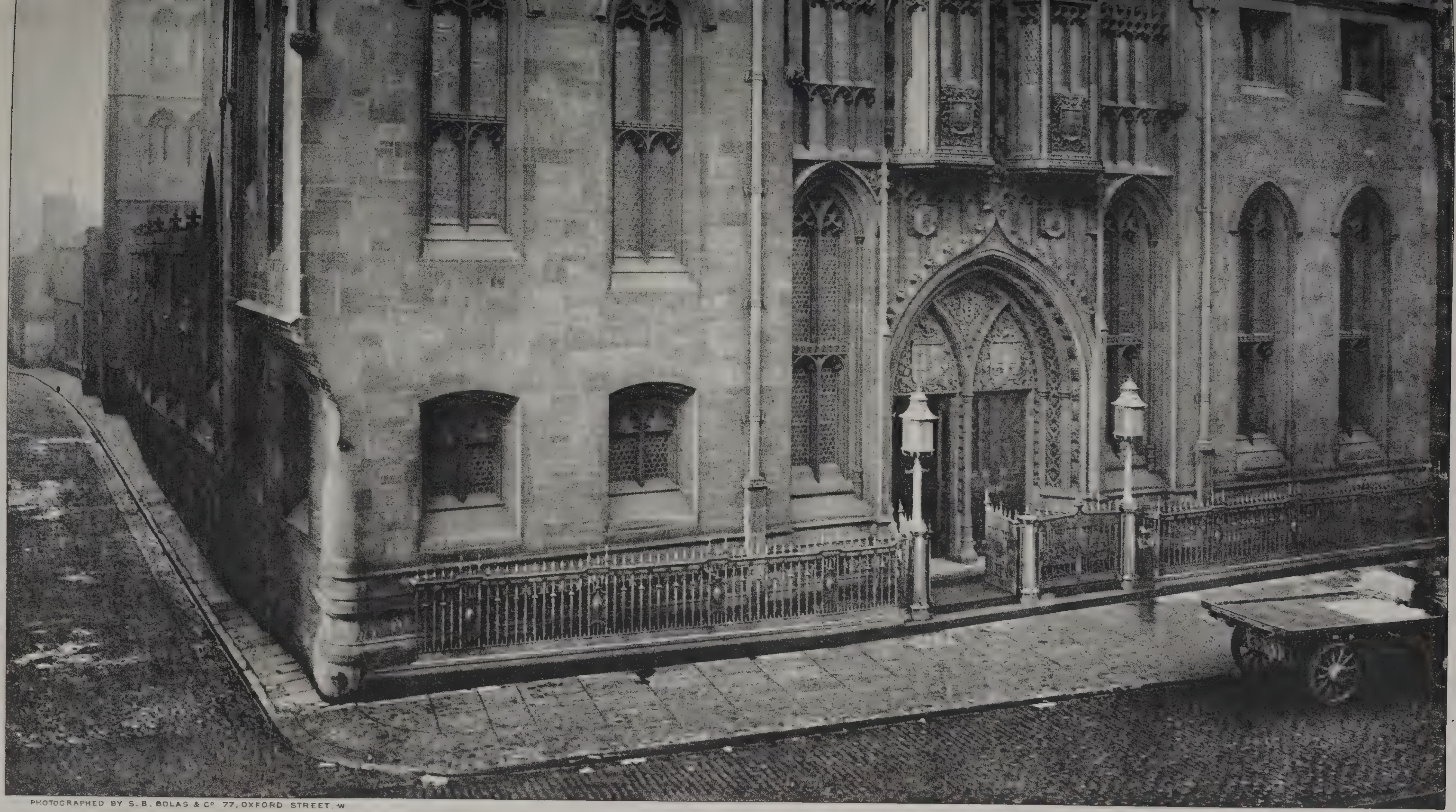

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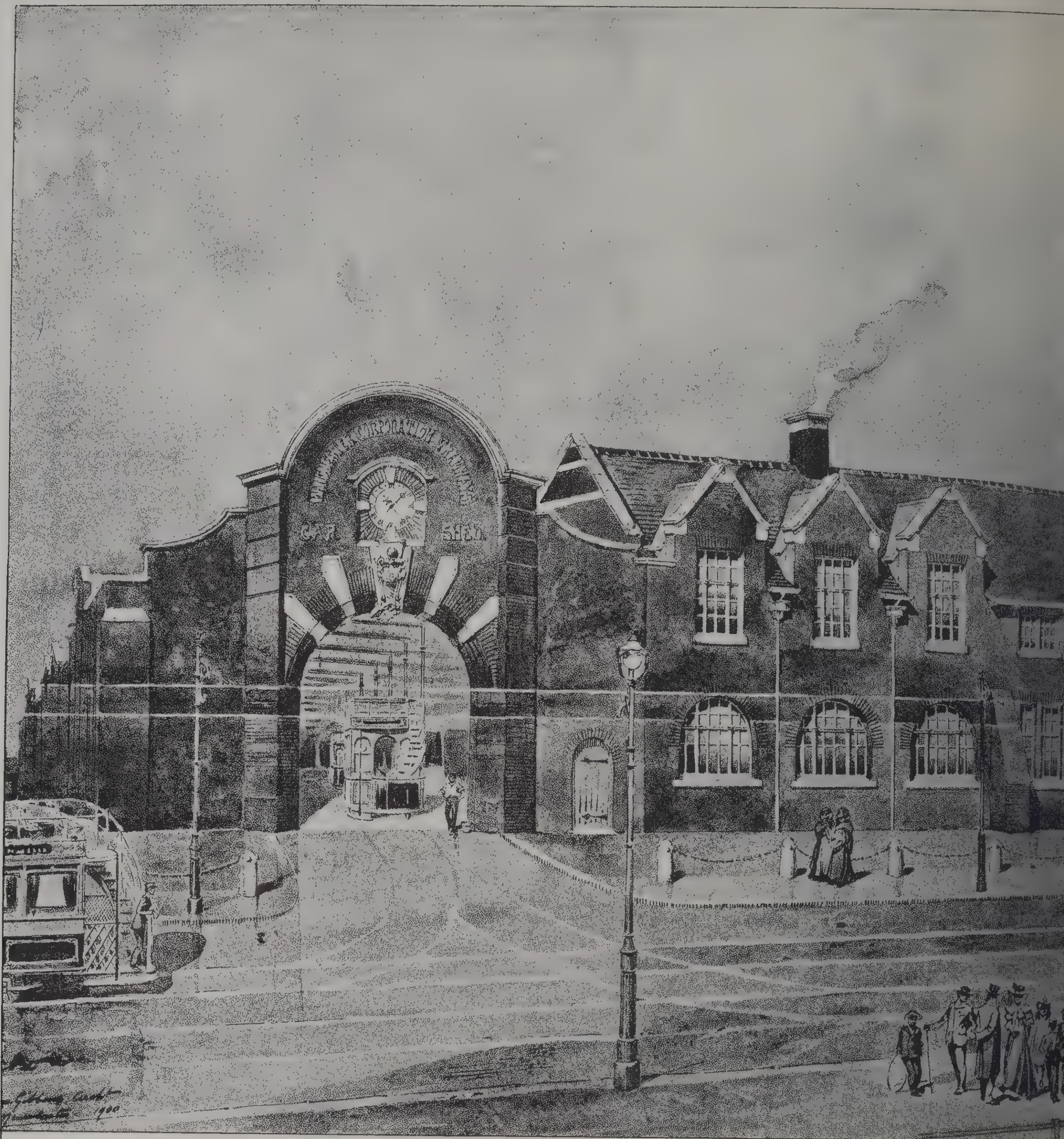

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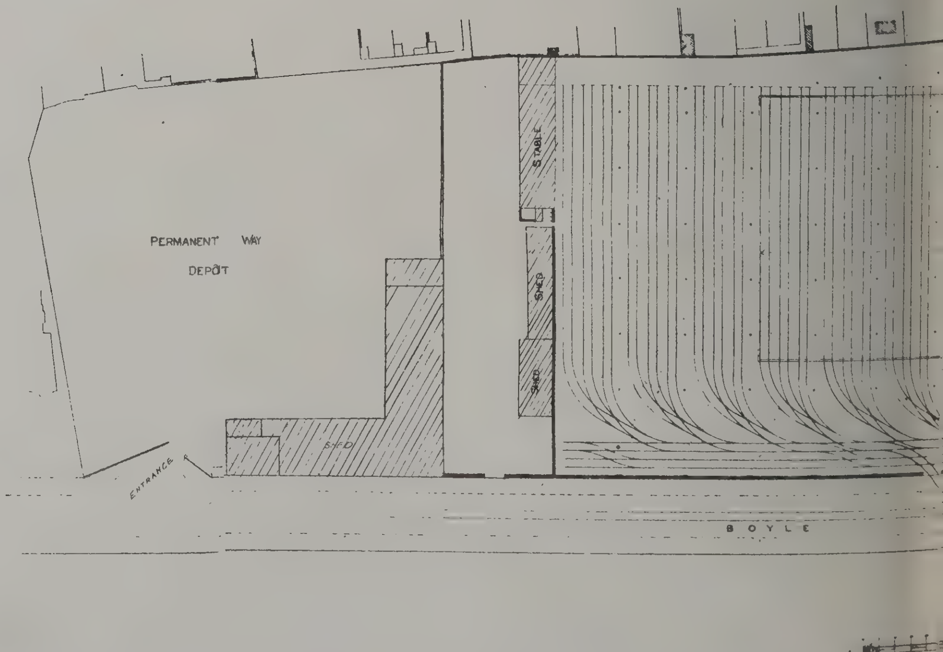

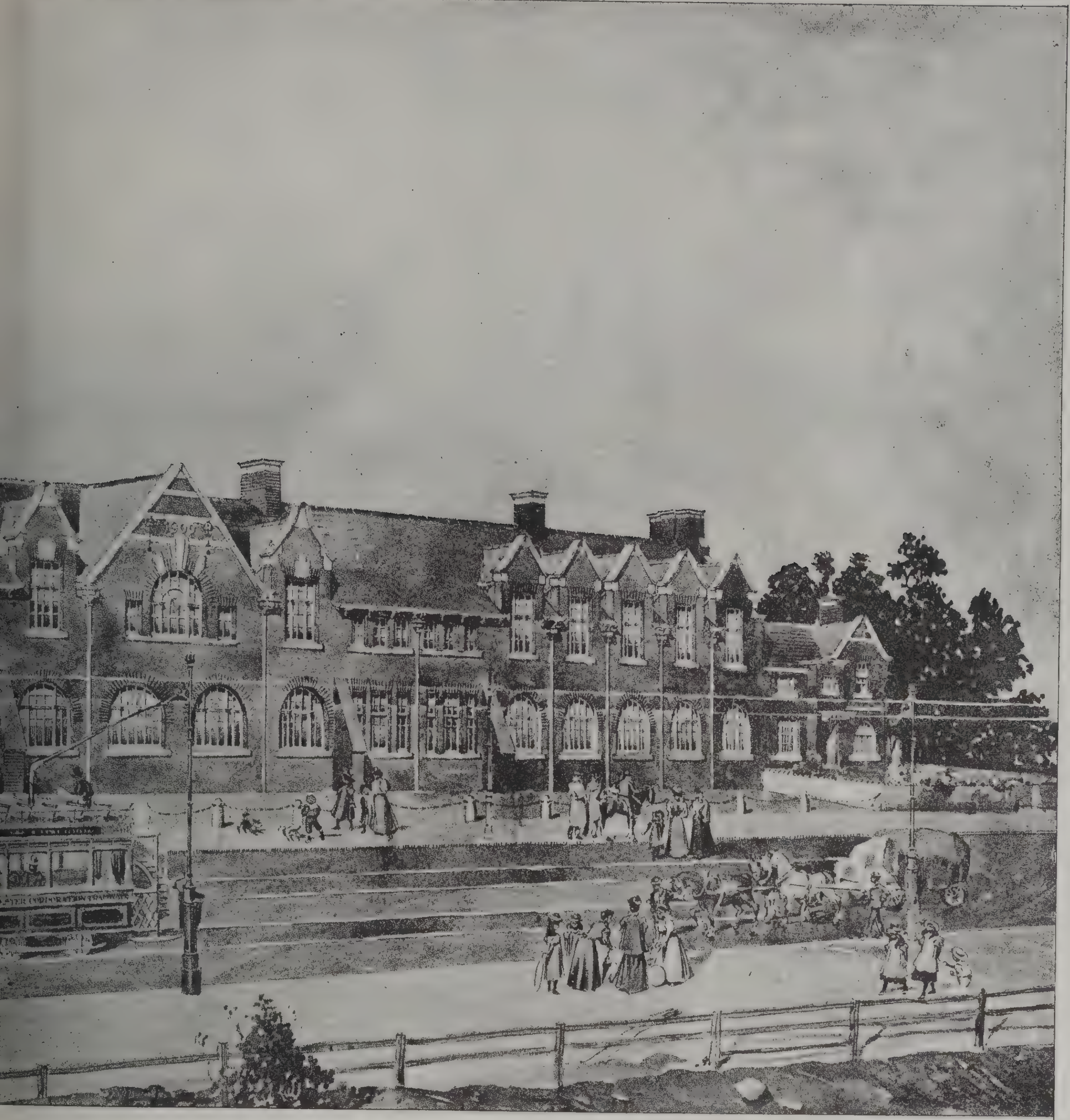

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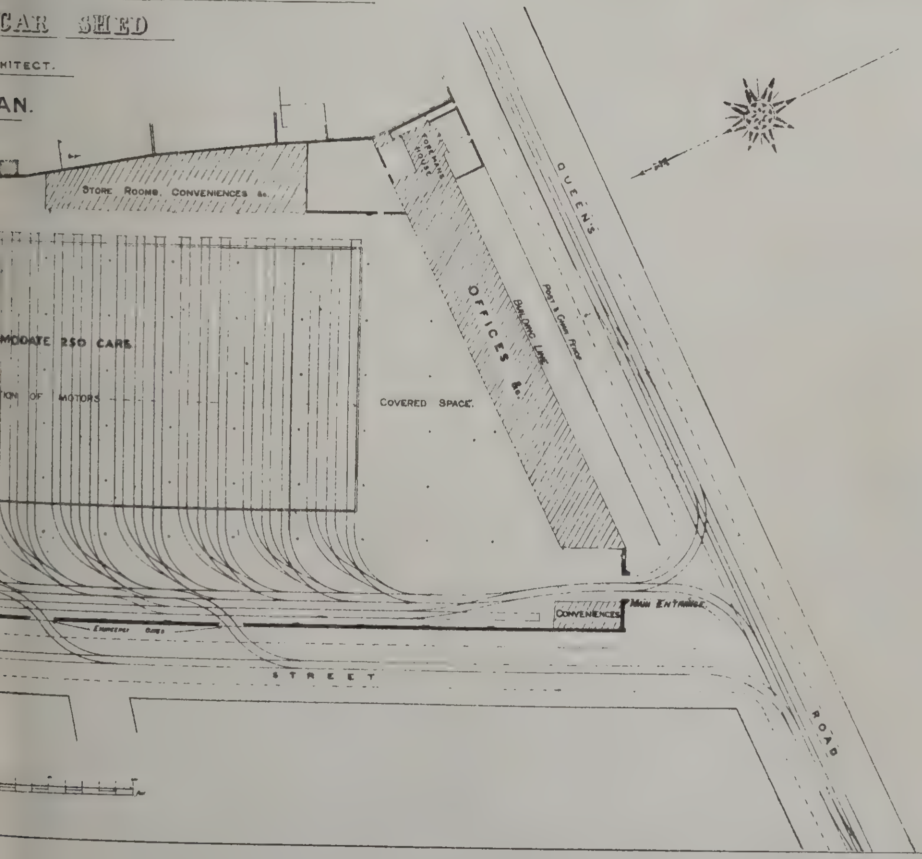

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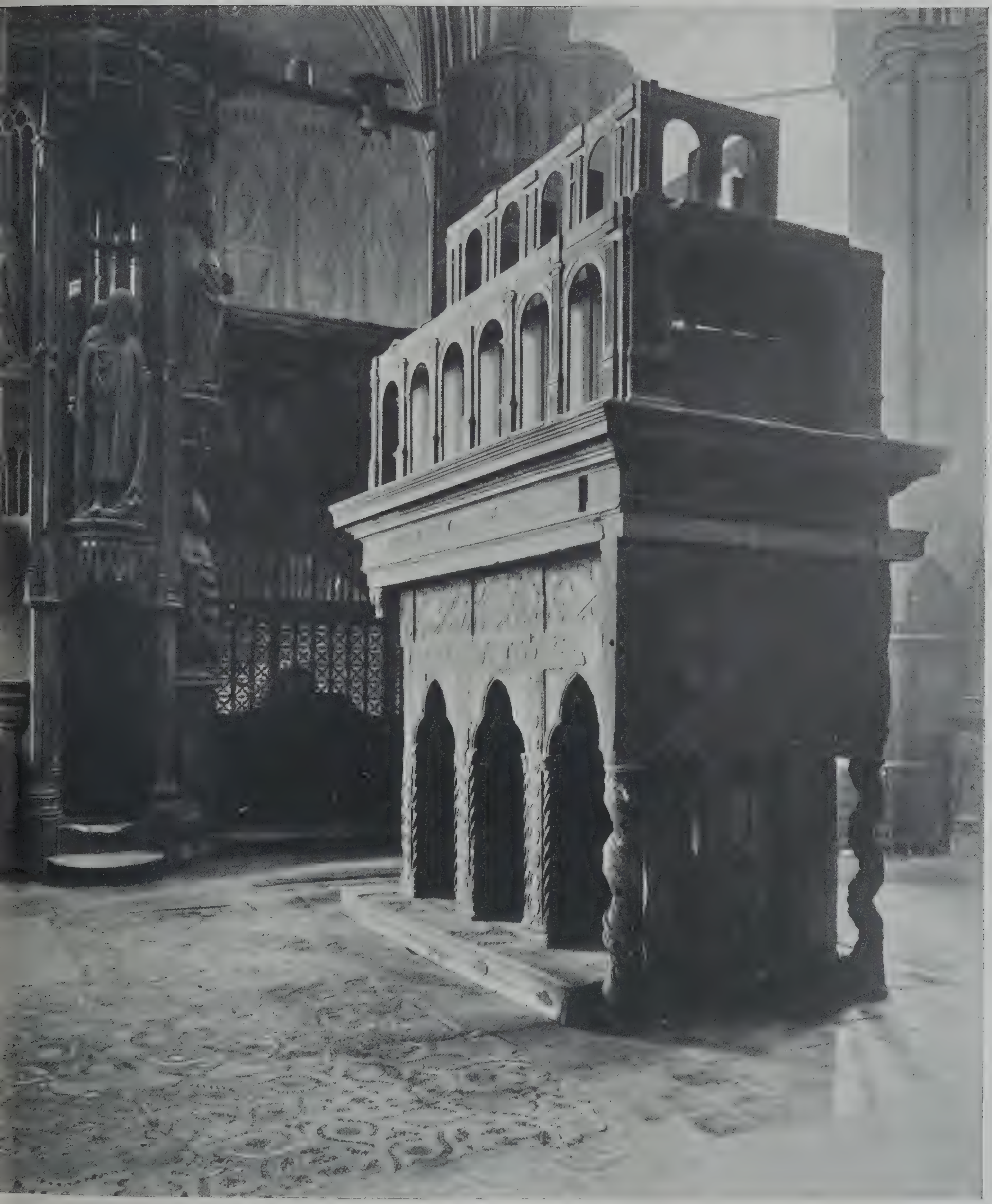

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WESTMINSTER ABBEY, No. 54.
CONFESSOR'S SHRINE, FROM NORTH-WEST.

The Architect.

THE WEEK.

About a year ago the construction of the Glasgow International Exhibition which is to be held next year was commenced. In his last report the architect, Mr. James Miller, stated that the progress of the works is entirely satisfactory. The industrial and machinery halls are well advanced, the material for the grand concert hall has been delivered, and the contractor expects to make an early start with the grand avenue, bridges and other buildings in the grounds, whilst the art galleries are fast being completed. The new art gallery and museum, which is to cost about a quarter of a million, will be inaugurated at the same time. It has been arranged that loan collections showing the progress of art during the nineteenth century will be displayed, as well as many historical and archæological objects. The industrial section will also exemplify modern manufactures, machinery, motive power, electricity, labour-saving appliances in motion, marine engineering and shipbuilding. As there is a limit to the available room intending exhibitors should lose no time in applying for space. The last day is the 30th inst. Foreign and colonial products will also be shown. The authorities not only of Scottish towns, but of the principal cities in England and Ireland have promised co-operation. During the exhibition the ninth jubilee of the University of Glasgow will be celebrated, and the following scientific bodies will hold their annual meetings :—British Association, Institute of Mechanical Engineers, Institute of Chemical Industries, Society of Engineers and Shipbuilders.

Dr. Livingstone died near Lake Bangweulu on May 4, 1873. He had parted from Sir H. M. Stanley in March 1872, with the resolution of exploring the southern end of Tanganyika. His body, having been preserved in salt by the natives, was carried to the coast and buried in Westminster Abbey. It has long been considered desirable that some memorial of the traveller should be found at the spot where his journeys ended. But as no stone suitable for the purpose could be obtained in the district it was difficult to find a substitute, especially as the question of carriage could not be avoided. The committee having charge of the project at length decided that an obelisk 20 feet high, with a cross on the top, and constructed of concrete, would be the most suitable expedient. The arrangements are now being carried out, and may be said to correspond on a miniature scale with those adopted for the construction of harbour works. The concrete will be enclosed in airtight metal cylinders, each weighing about 50 lbs. About 450 will be required. The cylinders will be, as it were, the elements of the large concrete blocks, which will be further secured. Bricks will also be required for the memorial, but they can be made on the spot. Bronze tablets will in addition be sent out, which will be built into the memorial, ecording the circumstances under which it was set up.

Sepulchral slabs with incised effigies are not common n Scotland. Messrs. MacGibbon & Ross describe one example in Creich Church which is a memorial of David Barclay and his spouse. He wears full armour, and it is upposed the hands and the faces were filled in with brass. A similar slab was recently discovered in the church of Long Forgan. The figures of the knight and his lady are epresented with folded hands, their faces turned upwards egarding the figure of St. Andrew on the cross which is n the centre of the upper part of the slab. The knight is attended by his squire, represented on a much smaller scale, nd both are in plate armour carved with the utmost minuteness of detail. There is a Gothic canopy over each of he principal figures, and much ingenuity is displayed in the ntroduction of a floriated background. A shield on he right side of the knight's head bears his arms, a lion ampant, and round the outer edge of the stone is the nscription in Latin, "Here lies John de Galychtly, ate laird of Ebrokis, and Mariota, his wife," the dates of death being left uncompleted beyond the numerals 1400. The identity of John de Galychtly had not bee discovered, but the shield of arms seemed to imply his descent from Patrick Galythly, who swore fealty to Edward I. at Perth in 1292, and was a competitor for the crown, claiming as the alleged grandson of William the Lion. The stone, which is one of the finest monuments of its kind discovered in Scotland, has been erected for preservation within the church. The slab was described by Mr. A. H. Miller at a meeting of the Society of Antiquaries of Scotland on Monday.

The Bill promoted by the London and North-Western Railway Company to authorise the improvement of the Euston Station has succeeded in passing through the ordeal of the committee of the House of Commons. The Euston Station will be enlarged, the hotel is to be rebuilt as well as the present offices, and altogether an outlay of 2,000,000*l.* is contemplated. It may now seem strange that the terminus should have been placed so far from the centre of London. But it should be remembered that in 1837 when the first part of the railway was opened economy was supreme, and in the original scheme the line was to end at Camden Town. The outlay of 81,531*l.* on the Euston Station appeared to be enormous, and Hardwick's Doric gateway was considered to be a waste of money. The Camden Town depôt cost 114,385*l.* The original estimate for stations and depôts was only 70,000*l.*, and the shareholders were terrified when they found the works cost five times that sum, or 360,000*l.* In the original Act of 1833 the company were authorised to raise a capital of 2,500,000*l.* and a loan of one-third that amount. Afterwards, for the extension of the railway from Camden Town to Euston Grove, a loan of 165,000*l.* was approved. Considering the importance of the line the original financial arrangements now appear to be incredible.

The Plumbers' Registration Bill was not more successful on Tuesday than on former occasions when a similar measure was brought before the House of Commons. The members recognise the perseverance of Mr. Knowles in his attempts, and are all willing to admit the evils of defective plumbing, but the fear of creating a monopoly is too powerful to be easily overcome. That fear is not altogether groundless. Builders and other employers find that registered plumbers are not disposed to submit to the usual regulations like the remainder of the workmen, and there is no denying that efforts have been made to escape from the control of architects. The desire has been to obtain independent contracts and to compel employers to accept registration as a sufficient guarantee of excellence. Mr. T. W. Russell, the secretary to the Local Government Board, said that if the Act were in operation thousands of men might lose employment, and the Government would not accept responsibility for such an evil. Besides, it cannot be determined who are most eligible to be entrusted with the onerous duties of examination and registration. When there is agreement upon the subject of administration there will be less difficulty about securing the support of Parliament.

The ancient church of St. Germain des Près is one of the buildings in Paris which foreign visitors are bound to see. But strangers rarely visit the square behind the church which is known as the Rue des Furstemburg. It derives its name from a cardinal who was at one time attached as a curate to the church. The ground was originally within the precincts of the abbey, and was, in fact, a liberty which was occupied by craftsmen, a part of whose earnings was applied to increase the ecclesiastical revenue. Although the houses mainly date from the seventeenth century, occasional examples of the work of an earlier period can be found in connection with them. Probably the most important of those relics are the remains of one of the chapels of St. Germain, which are to be seen in a little garden attached to one of the houses belonging to M. Michau, a contractor. They consist of arches, columns and capitals, and are believed to represent the work of Pierre de Montreuil, who was the architect of the Sainte-Chapelle and other works, and who constructed a part of St. Germain. He was buried within the church. M. Michau has transferred the remains to the Commission of Old Paris, and it has been decided to set them up in the garden on the north side of the church in the Rue de l'Abbaye.

THE ROMNEY EXHIBITION.

IN the memoirs of the life and works of his father, the Rev. JOHN ROMNEY, B.D., says:—"As few of Mr. ROMNEY'S pictures have ever been before the public, his professional character has not had a fair opportunity of being duly appreciated. To obviate in some measure this disadvantage I have noted several of his principal works in the course of these memoirs, but unless they could be seen collectively a just estimate of his great talents cannot now be formed." An artist in the eighteenth century could not have anticipated a special exhibition of his pictures, and the privation was not without a special influence upon painting. GEORGE ROMNEY could only consider his portraits as so many independent units which were never likely to be seen together and compared with one another. He was not, therefore, afraid of repeating his arrangements. For instance, a large number of the portraits of ladies in the Grafton Galleries will be found to have the hands clasped in an almost identical manner. Again, there is a surprising number of them in which the dresses are of a white material. Sometimes it appears to be muslin, and more often a soft creamy-white textile especially adapted for representation. The white dresses are not without advantage to the exhibition, for they give a summerlike character to the collection. The reason for the prevalence of white is, we suppose, to be traced to the preference given to it by EMMA HART. She was so often painted in white robes, the colour has become associated with her.

In the Grafton Galleries the charmer appears in other colours as well as in white. We see her as Circe in a pink dress with a rod in her right hand, her victims being transformed into wolves; as Nature in a red dress with a dog in her lap and a quite girlish expression on her countenance; as Emma in a white hat in a meditative mood; in two or three cases as a Bacchante leading a goat with a dog running before her and with a roguish expression on her face; as Euphrosyne, probably the most successful of all her portraits; as St. Cecilia; as a reader of a Gazette containing an account of one of NELSON'S victories; as Lady Macbeth, as Cassandra, &c. We have also her portrait at a later time, when she had become fat and had lost her refinement. Whenever an artist gives so many representations of one model we have a right to conclude that the subject embodies the qualities which he most admires and with which his pencil can cope. From ROMNEY'S numerous portraits, as well as from those by REYNOLDS and Madame LEBRUN which are in the gallery, we can realise that EMMA HART or Lady HAMILTON was a handsome animal without much intellect. Her character as a woman, it is unnecessary to say, did not stand high. That she was able to persuade Lord NELSON to debase himself, and for her sake to perform the only actions which have cast a stain on his character, is not so much evidence of her diplomatic ability as of the thraldom of the hero, who like one of Circe's victims had been transformed into a wolf. ROMNEY'S fidelity to such a model is therefore an indication of his limitations as an artist. He was not able to suggest mental powers or character. What he saw before him he could depict with fidelity, but we doubt if he was often able to suggest the idiosyncrasy of his sitter or to produce more than what are vulgarly called "speaking likenesses." There is one portrait in the collection which we think should be considered with more than usual attention by all who care to understand ROMNEY and his qualities. It is No. 75, *Mrs. Whately*. She was the grandmother of the renowned Archbishop of DUBLIN, and there is no doubt he inherited her expression and presumably some of her mental power. This portrait is unique among the works of ROMNEY now brought together, because it recalls more than exterior form. We see an old lady about whose shrewdness, uprightness, indifference to posing there can be no doubt. It is impossible not to be confident that she was an English woman who could rule in her house and who must have been respected for her character. There is no other portrait of a gentlewoman in the Galleries which produces a similar impression. We may admit the beauty of some of them, the simplicity of the dress and the ease with which they are posed. But we must feel that we do not know them in the same way as we know the subjects of REYNOLDS and GAINSBOROUGH. There is a wide gap between these gentlewomen and Lady HAMILTON, but they are no less separated from the *Mrs. Whately*, which might easily have been considered to be produced by a different hand if it were not for the guarantee of the ownership, for the picture belongs to the son of the archbishop. That portrait is not, however, the only one about which there will be doubts, but as in such cases chronology has to be considered a few lines may be here introduced about the artist's life.

ROMNEY was born at Beckside, which adjoins Dalton-in-Furness, in December 1734. His father was "the general contractor" of the place, and was favoured with an extensive business. GEORGE could only remain at school until he was eleven, and then he was engaged under his father until he was twenty-one. He was next articled to a strolling painter named STEELE, with whom, however, he remained only two years. Then ROMNEY set up as a painter not only of portraits, but of history pieces. There is in the Grafton Gallery a painting, *King Lear and the Tempest*, which suggests what ROMNEY was able to do about 1760. It represents, we suppose, no more than a company of strolling players on the floor of a barn, and it is so worthless one can hardly realise how the man who produced it would ever become competent to paint such portraits as we can see around it. It would not be considered worthy of the humblest of the Science and Art Department prizes. His *Boys Bathing* is, as a composition, of no higher value; in fact, ROMNEY never was successful with works in which several figures had to be introduced. But as LISTON, the low comedian, always believed nature had intended him to be a tragedian, ROMNEY, when most successful, kept lamenting the destiny which compelled him to paint portraits. "Subjects of the sublime," says his son, "in which the powerful passions are represented were, I think, the most congenial to Mr. ROMNEY'S mind." One of the instances given is *The Temptation of Christ*. According to the biographer, "Had he finished this picture it would have ranked him with MICHEL ANGELO. It was equal in original conception and wild fancy to anything ever produced by any artist. When one looked at CHRIST, silent passiveness was the idea which presented itself to the spectator; when at the fiends that assailed Him, vociferating noise and boisterous insult. Those visionary beings were the human passions and appetites personified. To aid the malevolent purpose, the illusive representations or ghosts of EVE and NOAH were called forth; and the arch-fiend, the Miltonic Satan, grand as the human mind can conceive him, viewed from the upper corner of the picture with malignant satisfaction the ready obedience of his imps." Filial devotion may be excused when it takes a too partial view of a parent's works. But there are at the present time many zealots who are no less convinced of the greatness of ROMNEY and of his right to rank among the noblest masters. ROMNEY, although said to be very shy of disposition, was, however, so confident in his powers he resolved in 1762 to seek his fortune in London. The next year he competed for a prize offered by the Society of Arts, and he was awarded the second for his *Death of General Wolfe*. There was some error in the arrangement, for the prize belonged to MORTIMER, and a special consolation prize was given to ROMNEY. For five years he exhibited as a member of the Free Society of Artists and subsequently with the Chartered Society. He found employment mainly as a portrait-painter. He held aloof from the Royal Academy in its early days, although the majority of his contemporaries sought to become members. But in 1773 he abandoned his lucrative practice and risked the severing of the connection he had made by departing on an Italian tour. He visited Genoa, Leghorn, Pisa, Florence and Rome. In Rome he remained for a year and a half. On his return he stayed at Venice, where, as he said, he was almost lost to everything in this world but TITIAN. He reached London in 1775 and became tenant of a house in Cavendish Square. His portraits pleased, and a ROMNEY party was formed for the purpose of overcoming the influence of REYNOLDS. Lord THURLOW was the leader, and for a time more portraits were produced in Cavendish Square than in Leicester Square. To carry out his numerous commissions ROMNEY did not spare himself. Nature rebelled, and the result was a premature old age. He died in 1802.

ROMNEY therefore belongs to about the last thirty years of the eighteenth century, and to some extent the genuineness of his works ought to be capable of being tested by the costumes belonging to that time. But we know that some of the nobles wore state robes which belonged to an earlier period. The scarlet coat and breeches and the embroidered waistcoat of *Lord Middleton* would have served for a subject of Hudson's pencil. But the portrait was doubtless executed by Romney. The resplendent *Fifth Duke of Marlborough* in the robes of a Knight of the Garter is dated 1779, and there can be no doubt about its authenticity. Costume, in fact, is not of much use in such a case. Antiquity was still allowed to have some control over fashion.

Romney was closely allied with Hayley, the versifier, whose mediocrity may be pardoned for his kindness to William Cowper and William Blake. Hayley was an eccentric character. At Felpham, near Bognor, where he possessed an estate, he is still described as a modern Bluebeard, and stories are told of his chaining Mrs. Hayley to a tree, and other barbarities. But from the sketch which is one of the first objects seen in the exhibition, Mrs. Hayley appears to have far more strength and resolution than her husband, and we suppose she was the offender and the poetaster the victim. Hayley may not be of much account, but amidst a crowd of subjects that have not even a "Triumph of Temper" to recommend them he is a welcome being. For the same reason the portrait of *Erasmus Darwin*, another poet, has interest. More interesting than either is the *Lady Austen*, for although she did not write verses she inspired Cowper's "Task" and "John Gilpin." There is a portrait of a young man with his hair thrust back off his forehead, that somehow suggests Tommy Traddles when he made a figure in Parliament by denouncing corruption, and it is supposed to be Mr. Pitt, but if so all the painted and sculptured portraits of the minister are incorrect. There is a Joseph Surface sort of fellow, and it is called Sheridan, with as little probability. Near it is a nude drawing, said to be Lady Hamilton, but the proportions are not those of any of her draped figures. Miss Mellon, afterwards Duchess of St. Albans and the wife of old Coutts, the banker, has the appearance of a comic actress, and merits remembrance for her friendliness to Haydon and other artists. To the majority of the visitors the pictures might each be described as *Portrait of a Gentleman*, *Portrait of a Lady*, for the present collection suggests that those who had gained a reputation and who were desirous of being handed down to posterity as notabilities preferred to go to the man in Leicester Square.

Among them, however, are many interesting works. The *Mrs. Carwardine and Child* exhibits a tenderness which is unusual in Romney's pictures. The *Mrs. Crespigny* might have been produced this year. *Elizabeth, Lady Forbes*, wears a hat which is infinitely larger than any seen in a modern theatre. The *Marchioness of Townsend*, who was one of the three Graces of Scotland, leans against a very stiff and fluted terminal, which does not do credit to the painter's skill as a woodworker. The *Brown Boy* does not seem to be painted as a rival to Gainsborough's famous work; it is of small size, and the costume has nothing extraordinary about it. His *Master Russell* is also excellent, but the *Cupid with a Mask* is not successful. Romney failed when he was deprived of a subject which he could copy. For the same reason the infant that serves for the poet in *Shakespeare nursed by Tragedy and Comedy* has nothing about him that is remarkable. What gives interest to the work is the figure of Comedy, which is a portrait of Lady Hamilton. In the portrait of Madame de Genlis he had to represent a face which was unlike those with which he was familiar, but he succeeded because he had the subject before him. If he attempted to paint a French lady from memory or imagination it was certain to be a failure.

Romney accepted prices for his works which now would be considered as ridiculous. From the account books kept by him, which are such interesting additions to the exhibition, it is plain he would paint a head for 20*l*. It was therefore necessary for him to produce works expeditiously. But however quickly they were executed, his works endure. There is not one portrait in the exhibition which is less than a hundred years old, and as well as can be judged, the colours are likely to be fresh at the end of another century. The handling is of the simplest, and the paints are laid on in the most straightforward way. His son informs us how, "in portraying the lovely features of woman, he combined the three primary colours of the most delicate character, for under the term milk may be comprehended all the gradations of tint from the skimmed blue to the yellow cream. He never sacrificed the durability of his colours in order to obtain by meretricious arts a temporary applause for rich and mellow tints. His style is clear, chaste and unsophisticated; and he will obtain from time what others have anticipated by trick." There are a couple of versions of Reynolds's portrait of Lady Hamilton in the Galleries, and a comparison of them with any of Romney's pictures will suggest that although he was less acquainted with the chemistry of painting, he continued to produce works which withstand time more successfully than the President's. Romney was not such a marvellous genius as his admirers believe. But in portraiture of a certain class he was undoubtedly successful, and the art student can derive many a lesson from the present collection of his works.

It is proposed by the managers of the Grafton Galleries to hold another exhibition of Romney's works in the autumn, in which sketches by him will be included. They will we hope be able to obtain the studies presented to the University of Cambridge and to the Liverpool Institution. In his portraits the artist was compelled to suggest repose, but, according to the Rev. John Romney, his father was strongest in suggesting passion, and his success is to be judged mainly by his sketches. We are told that "he had a perfect knowledge of the effects which the violent emotions of the mind produce upon the features of the face and the action of the body, so that he could impart to the eye a language almost as expressive as that of the tongue, and communicate to the muscles and limbs all that appropriate action which they assume according to the impulse of different passions; he could represent with exact discrimination the shades by which kindred affections differ from each other, and even depict that agony of distress when conflicting passions lacerate the tenderest feelings of the heart—which is the highest effort of skill—the acme of pictorial expression, and his designs representing the struggle between disappointed love and maternal affection in the bosom of Medea, so beautifully described in the epigram on the picture by Timomachus, are convincing proofs of his ability in this respect." The collection at present in the Grafton Galleries will not uphold that statement.

ARCHITECTURE AT THE ROYAL ACADEMY.—III.

The entrance front of the large mansion, "Branksome, Buxton," is the work of Mr. Huon A. Matear, of Liverpool. The custom of giving resounding titles to small stuck-up houses has become so common, many excellent buildings are sometimes underrated. Branksome has been popularised by Scott, and if the Buxton house has not the feudal attributes of the seat of the Buccleuch family, it is sufficiently dignified to serve as a residence for them under modern conditions. It is partly half timbered, and the bay windows are on an ample scale. Altogether, it is among the most satisfactory of the country houses. Mr. Horsley's "Additions to Balcombe Place" shows an annexe of one storey, with a great window and entrance, the whole being well treated. In another drawing the music gallery is shown. It has an arched roof, gallery and projecting fireplace. Much elaborate carving is introduced. The "Wellingborough Cottage Hospital," by Messrs. Sharman & Archer, cannot be considered of the cottage type, since it has three storeys. M. Jan Kotěra's "Architectural Studies" are neo-Grec in style, with the refinement of detail which is more easily expressed on paper than obtainable in execution. "A Roman Fantasy" shows a circular tower skilfully treated, and the "Ideal Town to the Entrance of the Proposed Submarine English and French Tunnel" should likewise be described as a fantasy, although sufficiently pleasing as a study. The "Dining-room, Glen Falcon, Isle of Man," by Mr. Baillie Scott, has as much massiveness, especially in the timber-work, as was to be found in the few castles in the sixteenth century when Julian Peveril visited the island. The frieze does not correspond with the style, for it appears to have been inspired by Japanese fans. A hall and another dining-room by the same architect are also shown. Mr. Inigo Triggs's "Design for a Grammar School" comprises a long, low hall and chapel as well as classrooms. Mr. Caröe has a design for a large residence, "South Lytchett Manor, Dorset."

Mr. Aston Webb's "Royal College of Science, South Kensington," is known by means of the illustrations which appeared when the competition was settled. Without being an imitation of them, it will be in keeping with other buildings for educational purposes in the same district, but it marks a departure from the early official styles of the Science and Art Department which are exemplified by Pennethorne's building in Jermyn Street, and General Scott's building at South Kensington. Mr. Arnold Mitchell's "Design for the Dartford Board Schools" resembles a terrace of cottages. The absence of doors from the view has a novel effect. There are drawings of an "Entrance Front, London Road, Newark," by Messrs. Brewill & Baily; a "Porch at Halifax," by Messrs. Wilson & Oglesby; "The Ramsay Arms, Fettercairn, N.B.," by Mr. T. M. Cappon; "Ye Angel Hotel, Ilford," by Mr. H. M. Wakley; "House near Gibraltar," by Mr. R. S. Wornum; "Windylea," by Mr. F. Musto; "A House," by Mr. A. C. Martin; "Hill Crest, Rye," by Mr. P. Tree; "The Priory, Steyning," by Mr. F. Foster; "Rookery, Harpenden," by Mr. P. C. Blow; "Headland Cottage, Limpsfield," by Mr. A. Keen; "An Entrance Lodge," by Mr. H. I. Triggs. Mr. H. H. Statham has an interesting academic design for the "Cartwright Memorial Hall," and Mr. J. M. Brydon is represented by a view of the "Circular Court, New Government Offices," which expresses official coldness and aloofness as well as is possible in masonry. The "Memorial to the late Lord Hillingdon," by Mr. A. M. Poynter, shows a substantial railing of a severe type of Classic, but adapted for cemetery purposes. The "Episcopal Palace, Bristol," of which Mr. Caröe is architect, is rather expressive of purpose, for while it cannot be taken for a private residence it is not showy enough for an hotel and has too much variety to be a benevolent institution. The "Part of New Infirmary, Sheffield," by Mr. Mountford, shows consideration for patients, as there are only two steps before the entrance. Another advantage is that it bears no resemblance to a prison or a workhouse. But as the building stands on a terrace it is not evident how the patients are to reach the level of the grounds. The "Town Hall, Hitchin," by Messrs. Mountford & Lucas, is so simply treated, ratepayers cannot object to the outlay on the building. "Building, 59 Bath Street, Glasgow," by Mr. T. L. Watson, is an excellent example of modern Renaissance, but of English rather than more northern type. Another instance of the spread of English ideas is the "House at Moniaive, Dumfriesshire," by Mr. West Neve.

The remaining examples in the room consist of houses by Messrs. Mee & Jennison, G. Streatfield, C. H. B. Quennell, T. E. Pryce, W. H. Ward, Harold Falkner and H. Field. There is also a plain "Hospital and Nurses' Home, Frome," by Mr. B. Vaughan Johnson. Mr. W. Young sends a "Model of the Inner Hall of a Country Mansion," Mr. L. F. Crane a "Model of a Cottage," and Mr. C. Spooner a "Model of Rushmere Lodge, Ipswich."

PAINTING AT THE ROYAL ACADEMY.—II.

As a connecting link between the costume pieces we have described and the representations of modern incidents, we may select Mr. Val Prinsep's *Goose Girl.* It is, we presume, an illustration of the fate of the "Gänsemagd," the heroine of the fairy tale which has delighted German children for many a century. But it is sufficiently realistic to be taken as an everyday scene, and as if the artist had gone into competition with Mr. Clausen. The king's daughter with the beautiful hair, who allowed herself to be supplanted by her waiting-maid, and who became a goose girl instead of a prince's bride, is seated on the ground, and looks out towards the spectator through her golden hair, "die strahlten von Glanz." The face is rendered with such marvellous power as to be remembered, while the geese are painted in a manner that suggests a lover of country life. As we have mentioned Mr. Clausen, we can say he is in force this year. His *Gap in the Hedge* might have been painted in the days when the influence of Bastian-Lepage was strong upon him, for the two children who are forcing their way through the branches are more French than English. But his *Setting up Sheaves, Solitude, The Dark Barn,* a most successful example of chiaroscuro, and others are proofs that he has not looked at nature through foreign spectacles. To all visitors who are engaged in construction Mr. Gow's *Great Nile Dam, Assouan,* will be interesting. It is a record of a work which surpasses any executed by the Pharaohs. Mr. John Aird and his staff, with the engineers, are discussing a problem relating to the masonry, while Egyptian labourers are engaged in the construction of the dam under western overseers. The light is dazzling, and enough is seen to give an idea of the heat of the sun. Past and present are united in the picture. Its success suggests that modern industries might be more often used for subjects, but with the exception of farm incidents very few artists have taken advantage of them. *The Good Samaritan,* by Mr. William Small, deserves commendation, for in it we see a young and fashionably attired doctor kneeling on the ground and sounding the little child of a gipsy woman, while the father looks on. The wanderers are of an East End type, and have little resemblance to those who are still to be met with in byways, but it was necessary to have a strong contrast in order to bring out the moral of the subject, which brings skill into relation with ignorance and civilisation with barbarism. Near it is Mr. Val Havers's *Within the Branching Shade of Reverie,* in which we see a couple of girls near a village pond. The faces and costume are interesting, because we see in them a survival of pre-Raphaelitism. If Meissonier was amazed when he saw Millais's *Yeoman of the Guard,* because he did not think any Englishman was bold enough to paint so much scarlet, what would he say to Mr. Fred Roe's *Old Defenders,* in which not one but a troup of yeomen are presented? It is one of the many brilliant examples of colour which surprise visitors this year. Mr. Stanhope Forbes shows animals under strong light and shade in two regions. In *The Drinking Place* we have an English scene, with horses drinking from a very shallow stream. In *The Basque Team* we have oxen dragging a load under the fierce light of the south. There is little of Arcadia about Mr. Edgar Bundy's *Watercress.* It is a modern scene, a group of the humblest classes cutting watercress in a field. The painting is vigorous, and as most of the figures are stooping, they presented many difficulties. But so much power should have been employed on industrials who are less squalid. The picture is enough to turn people against the plant. Mr. Mark Fisher's *Bathers* is very boldly painted, and suggests the condition of a summer's day in England. Mr. C. M. Q. Orchardson's *To Life and Toil the Breath of Nature Lends a Touch of Colour* is a happy subject. The interior of one of the florists' shops at Covent Garden is represented, and the richest flowers abound on all sides. All are rendered with the skill of a practised hand, but the beauty of the plants must excite regret that nature has not been equally generous to the pale girls who serve, or to the porter. Mr. Frank Bramley gained his reputation by his ability to paint scenes of woe, but his *Through the Mist of Past Years*—an old labourer and his wife seated before their cottage and laughing over some remote reminiscence—is enough to make the most assured pessimist become good-humoured while he looks at it. The flowers around the pair rival those in the Covent Garden scene in colour. When so much beauty attends the poor in the country, Londoners may be excused if they become sceptical about the necessity of rebuilding labourers' cottages. Mr. La Thangue has a characteristic subject in *The Ploughboy,* who is seen leading the horses to the fields in the early morning, and who occupies himself with cutting a switch. As in his other pictures, he endeavours to become as accurate in showing the effects of light at a particular hour as in representing details. His *Water Plash* is also noticeable, for geese alone are shown to be sufficient to make an interesting picture.

Among the landscapes the most important of the imaginative class are two by Mr. A. Goodwin. *The Source of the Sacred River* is an Indian scene, and the rocks which guard the stream on one side are as varied in colour as if they were covered with rich tapestry. *Dawn in the Pilgrim's Road* has been inspired by a passage in Isaiah. Although in the text we have reference to a highway through a region which was the habitation of dragons and of ravenous beasts, what is most prominent in the picture is a remarkable combination of structural features. High up in the sky are beams and arches and buttresses, which are bewildering in their multiplicity, and we seem to stand beneath some colossal exhibition building which has been partly dismantled. While we are glad to see imaginary architecture, we think a distinction ought to be made in such cases between the permanent and the unstable in construction. The builder's art consists in utilising materials which, like himself, are doomed to decay. But is it right to suggest that in another world, or in a happier state of ours, exactly similar laws must prevail? When the Prophet says, "I will lay thy stones with fair colours and thy foundations with sapphires," we have a vision of something beyond the dreams of millionaires or their architects. But with sapphire foundations we cannot suppose that the law of gravitation or the wear and tear of atmospheric influences could exist. It may be doubtful whether *The Pilgrim's Road* is as impressive as Mr. MacWhirter's *The Silence that is in the Solemn Woods*, although in the latter the haze forms a band of blue which will appear strange to many. It is an English scene, but in *The Nameless Dell* and his other Scottish views the artist is able to employ the varieties of trees which have so long served him well. Mr. Leader, in *Hill, Vale and Stream*, indicates by the title the variety which is to be found in his landscape. He has been successful in dealing with the light and shade of the woods. Mr. Waterlow shows the fertility of Southern France by his *Land of Olives*. Mr. East's best landscape is *Lake Bourget*, which is unconventional in composition. Mr. David Murray has four landscapes, all of which appear to have been taken from nature without adaptation. *A Fair Land is England* is a coast scene where trees in blossom come down to the water's edge. Their gnarled and twisted branches, which have resisted storms, become emphasised by the very light fishermen's nets which are hung near them. Another coast scene worth attention is Mr. Lodge's *Freshwater Cliffs, Isle of Wight*. Mr. Colin Hunter's *London from the Tower Bridge* is a departure from his usual class of subjects. There is, perhaps, an excess of browns which recall northern scenery and not enough of the greys, which are more common about London. But the artist realises the effect of the river and the immensity of London, especially in one direction. The character of St. Paul's is also suggested, without any distortion of the dome which is usual in such pictures. *The Old Bridge in Verona*, by M. Fritz Thaulow, is shown by the aid of colours which must have been as thick as mortar, but in consequence the structure stands out with amazing force. Fortunately for pictures near, the colour is only a reddish brown. The structure becomes more interesting, for ancient or modern architecture is not in favour this year.

Among the sea-pieces Mr. Napier Hemy's *Breakers Ahead* holds the most prominent place. The force of the waves is enhanced by the commotion seen on the boat which has to struggle against it. In the Water-colour Room is one of the largest drawings ever executed, *Oporto Seen from the Sea*, which is also by Mr. Hemy. *A Summer Cloud*, by Sir W. B. Richmond, would at a distance be taken for one of Mr. Whistler's "Symphonies." It is a record of a scene that is common, although few artists care to seize it, viz. the continuity of colour in sea and sky which is observable in summer. It may be considered a simple effect to produce, but experience shows that few attempts have been as successful as the picture in the Academy.

Among the portraits, the most important is the very large group by Mr. Sargent, *Lady Elcho, Mrs. Adeane and Mrs. Tennant*. Notwithstanding the size, the three figures have been placed on the canvas with apparently as much facility as if they formed a pencil sketch. The artist appears to be commonplace in his two portraits of Lord Russell, but that may be owing to the number of likenesses of the Chief Justice which have been exhibited, and which make it impossible for him to be seen under a new aspect. In *The Earl of Dalhousie* a young gentleman is represented who is perfectly at his ease, but surely veracity has been carried too far by Mr. Sargent when a triangular patch is shown on the forehead in order to indicate that his lordship's hat is usually worn at an angle. Mr. Shannon appears to be frequently put into competition with Mr. Sargent, and the portrait, *Lord Manners*, will bear comparison with the work just mentioned. Mr. A. S. Cope has a full length, *Lord Kitchener*, but the newness of the uniform and surroundings does not indicate a soldier who has been seasoned in broil and battle. Mr. Ralph Peacock's *Master Logan*, who is shown mounted on a pony, is attractive from the genuine boyish delight of the subject. *The Sisters*, by the same artist, is also admirable. Mr. Osborne's *Rev. J. P. Mahaffy, D.D.*, is characteristic of the versatile Irish scholar who bears his load of learning like a flower. Mr. Ouless's *A. N. Hornby* will delight all lovers of cricket by the manly and unaffected presentment of the renowned Lancashire player. Sir W. B. Richmond's *Honourable Mr. Justice Kennedy* looks as if it had been constructed on a geometrical basis with the aid of drawing instruments for the benefit of South Kensington students; the symmetrical arrangement of the features cannot be disputed, nor the leaden colour of the flesh, which might have been derived from a Science and Art monochrome. There is no more courageous portrait in the exhibition than *The Lady Mayoress*, by Miss Henrietta Rae (Mrs. Ernest Normand). In it is a profusion of colour and of milliner's, furrier's and feather dresser's work, but on that account it is the more characteristic of the conditions of the temporary sovereignty of London, in which there must be display, whatever the cost. Compared with it, the *Honourable Mrs. Stuart Bouverie*, by M. E. Wauters, appears a personification of simplicity. Mr. Herkomer has been least unsuccessful in his portrait of the Bishop of London, which is an enamel; the difficulties of production compelled him to exercise restraint. The face no doubt appears of minor importance if compared with the cope and crozier. But the work is, therefore, the more truthful. It is to be regretted that the prelate should be restricted in his employment of pontificals, for he has a talent for that mode of decoration, and as the tendency of modern costume is to become more and more sober, some revolutionary force is demanded. The Bishop is unable to wear his mitre openly in England, but by substituting a cap of cloth of gold he shows skill in adapting himself to circumstances without appearing to be defeated.

EGYPTIAN EXPLORATION.

THE work of the Egypt Exploration Fund at Abydos during the past winter was described by Professor Flinders Petrie in a lecture at University College. He said that during the past four years a large quantity of early remains had been found by M. Amélineau in some large tombs at Abydos, but nothing was proved as to their date, and opinions widely differed. At last English work was permitted there, and within two or three months the historical questions were settled, and a large collection of material of the First Dynasty was obtained from the same ground that had been already ransacked. The First Dynasty of Egyptian kings had generally been looked on as more or less mythical. Now we were able to handle the royal drinking bowls from the palaces, to compare their art and their carvings, to criticise the posthumous respect paid to each king, and to feel much more familiar with the daily life of the age than we could with our own Saxon kings. All this had come about through the careful study of three or four insignificant-looking lumps of black mud. The royal wine-jars were sealed by the officials, and in most cases only bore the hawk name or Ka name of the king, which was not recorded in the lists of kings. Hence we were still in the air historically. But one or two seals of each king bore both his names, and from these the actual tombs of the fifth, sixth and seventh kings of the First Dynasty, named by Manetho, Usafais, Miebis and Semempses, had been identified. Other royal tombs of the same group were those of the other kings of the First Dynasty. This discovery had also, by the style of work and the position of the objects of King Aha, led to this king's being certainly identified with Menes, the founder of the Egyptian monarchy. Thus the tablet found by De Morgan in the tomb of Aha proved to have been correctly interpreted by Borchardt. We were now in a position to form a correct appreciation of the whole of the First Dynasty between 4000 and 5000 B.C. The art, which was rude and archaic under Menes, rose to its best point under the luxurious King Den-setui, the fifth of the dynasty. His tomb was paved with red granite and richly furnished with cups of crystal and beautiful stones, bearing his name in large finely cut hieroglyphs, while no fewer than twenty tablets of ivory and ebony carved with inscriptions were known of from his tomb. The later kings showed less sumptuousness, but a more general habit of inscribing the objects of the palace and the tomb. The principal classes of antiquities obtained in the past winter were—(1) The great tombstones of the kings, one of Merneit, a king as yet unknown, and one of Qa, the last king of the dynasty; (2) the private tombstones of the royal domestics, of which fifty had been obtained, one in particular giving all the official titles of a major-domo of this age; (3) the fine stone drinking bowls and platters, portions of several hundred dishes of fine stones, to say nothing of the abundant alabaster and slate dishes, about sixty of which bore royal inscriptions; (4) the impressions of seals on the closing of the wine jars, of which eighty-eight different inscriptions were now drawn; (5) the labels and tablets of ivory and ebony, of which parts of thirty had been found with inscriptions; (6) the innumerable pieces of carving in slate, ebony, ivory and stones. After the selection of a few—the most valuable—pieces for the Cairo Museum, the rest were all on the way to London, and would be exhibited at University College in July, as usual. The publication of these results in sixty-eight plates would appear before then.

ARTISTS' BENEVOLENT INSTITUTION.

THE annual dinner of the Artists' General Benevolent Institution was held on Saturday night. Lord Tweedmouth presided. The chairman, in proposing the principal toast, said that the rising artist had too often to consider whether he should sacrifice self to Mammon or Mammon to self. This was a severe test even for the strongest mind, and the patrons of art, though they might help individuals, discover genius and save many a man from going under in the struggle, could not give dignity and stability to the profession as a whole; and sometimes, when sickness or other affliction fell upon the artist, they forgot their position as patrons. It was to associations such as the present that it fell to support the widow and find subsistence for the fatherless. The Institution was doing good work quietly and unconspicuously. Many calls were made at this time on the purses of the benevolent, but there were many reasons why their Society should not be forgotten. Dr. Farquharson, M.P., proposed "The Royal Academy and Kindred Bodies." Sir E. J. Poynter, who replied, said that the hanging committee of the Royal Academy, with room in their galleries for less than one-sixth of the pictures sent in, had to face the displeasure not only of those whose works were rejected on their merits, and who, perhaps, would have been wiser not to have sent them in, but also of the producers of many excellent and carefully finished works which fell into the enormous class of doubtful pictures, and these even when they had been gone through a second time still amounted to double the number which it was possible to place on their walls. It was his most painful experience after the hanging was completed to go through the rooms and see so many excellent pictures standing in rows awaiting return to their owners. He and his colleagues took a keen interest in every picture submitted to them, and did their best, yet they could not but be conscious that in many breasts the decisions of the committee aroused feelings of resentment. There had been a time when he himself considered the hanging committee to be wanting in the elementary knowledge of all that constitutes a good work of art. Sir Wyke Bayliss also responded. Subscriptions were promised amounting to over 2,000*l*.

TESSERÆ.

The Construction of Stonehenge.

IT would not have been impossible for the ancient Britons to have moved and to have erected large blocks of stone for the construction of Stonehenge. Such stones, after having been shaped and dressed, may have been transported by a machine similar to that mentioned by Vitruvius, whereby the stone being surrounded in a cylindrical framework became the nucleus of a roller, around the ends of which ropes were coiled; and a drawing power being applied to the end of each rope caused it to unwind, and thereby to set in motion the roller. This contrivance for the transport of a great weight over rugged ground possessed mechanical advantages over any wheel carriage:—First, because the surface in contact with the ground being broad, is not liable to sink in soft places; secondly, because there is no friction of axle; and thirdly, because it contains a mechanical purchase which doubles the power applied, the advance of the roller being evidently only half that of the moving power. The stone being thus conveyed to the spot fixed upon for its erection, we may suppose that an excavation was ready to receive it, and that the excavated earth would form a bank. The roller would then be dragged along the sloping side of this bank until the lower end of the stone was opposite to the spot on which it was destined to stand, and from this inclined position it may have been raised to upright by ropes attached to it, and passed over two pair of 30-feet poles inclined in a direction contrary to that of the stone itself. Then by a power applied to these ropes, the stone may have been securely raised to perpendicular. After the uprights had been thus fixed in the ground the impost may have been raised by a succession of wooden blocks or long billets being placed underneath the stone, the ends of it being alternately elevated so as to admit a block; and if we suppose the stone to bear upon these blocks for one-third of its length only, the remaining two-thirds would be in equilibrium with each other. Thus by means of a long pole or poles lashed firmly along the upper surface of the stone the weight to be swayed up at each effort would not be that of the whole stone, but of one-third of it only, the upper and lower thirds being (as before said) in equilibrium When the impost had been thus raised to a level with the uprights it was necessary to move it laterally into its place, which may have been done by so placing the uppermost blocks as to form an inclined plane, from whence the stone might be made to slide into its position under such command as to adapt the mortises and tenons to each other for permanent juncture of the three stones in one mass.

Mediæval Vaulting.

With the earliest Gothic architects the arch was of the very first importance; it was the essence of all their vertical construction, and was the ruling element not only of construction, but also of form—the whole of their architectural principles were really based upon it. The Romans, in a great number of cases, based their constructional methods entirely upon the arch, but still the chief point of support in their architecture was always a solid and inert mass—even their vaulted buildings appear as if carved from a single block, such vaults being nothing but gigantic mouldings. The architects of the twelfth century, on the other hand, gave useful work to each separate part. Their columns are veritable supports; their spreading capitals help to bear the load when the profiles and ornamentation of their capitals are greatly developed; it is because such development is necessary. Their vaults are divided into many intersecting arches, because these arches are nerves each fulfilling its proper function. The stability of vertical points of support depends upon their being sufficiently propped and counter-weighted; every arch thrust finds itself met by some other compensating thrust. Walls disappear, they are no longer supports, but merely enclosures. The whole consists of a system of braces and trusses maintained in their places not by their mass, but by a nice calculation and combination of opposite and reciprocally annihilating forces. The vault is not a mere crust, a covering in a single piece, but an intelligent combination of ever active pressures weighing upon certain bases arranged to receive them and transmit their force to the ground. Profiles, sections of ornament are so designed as to aid the comprehension of the mechanical truths employed. These deeply-cut profiles fulfil in a very perfect manner a purely useful function when external; they preserve various parts of the building from the destructive effects of rain, and that by means of the most simple sections. When used internally they are not so numerous, they serve to accentuate the different storeys, and being very freely developed they are employed as corbels and other kinds of supports. Such ornamental parts were always designed after the local flora, as architects then depended upon themselves alone, borrowing nothing from tradition or from strange forms of art; they were selected with regard to their future situation, where they would always be easily seen and should be as easily understood; they were subordinate to the general architectural arrangement and construction; they were carved in the workshop before being fixed in place, and took rank with the other necessary members of the finished edifice.

Rules of Art.

Never yet was anything truly great or valuable in art achieved by dint of mere rules; the utmost they can do is to prevent positive errors. By no means, however, does it follow that the observance of them will guard against all vices, because there must ever be more or less of which rules will stop short; and here it is that originality discovers, while imbecility betrays itself. It is not criticism, but sheer quackery, which solicits admiration for mere beauties of routine, and which looks only at parts and fragments, without forming any estimate of the whole. A very poor painting may exhibit tints here and there that, considered merely as colours, may be exceedingly fine; and an unwashed palette may display hues equal to any that we meet with in Titian or Rubens. Yet colours are one thing and colouring another; nor do random and unmeaning accidents of the kind alluded to excite any pleasure. Were it, too, not for the cant that has been kept up on one side and the ignorance that has blinded people on the other, the world would long ago have found out that the same holds good in regard to architecture as to the other arts, although not precisely in the same degree. This prevalent and, for the most part, utter ignorance in regard to the powers of architecture as one of the fine arts, has favoured a grovelling pettifogging system of criticism, which has thoroughly drugged us with nostrums of one kind or other. No matter what particular style be advocated, the quackery made use of for the purpose is pretty much the same. In unqualified unquestioning bigotry, the admirer of Ictinus yields not one jot to the idolater of Palladio; the patriotic venerator of our old English architecture is not a whit more liberal than the most dogged worshipper of Vitruvius, while his very patriotism serves to dignify his one-sided obstinacy. Differ as they may from each other, they all agree in admiring by rote and in discountenancing any attempt to step beyond certain limits they have been pleased to set up. So strongly, indeed, have they fortified their respective systems with circumvallations of rules, that we may be excused for imagining them to have been devised for the special protection of stupidity, and that out of favour to this latter quality, genius itself must not be allowed to advance one step out of the regular track, lest its blundering imitators should lose themselves among quagmires.

English Bricks.

Wall tiles or bricks were made and used by the Saxons and Normans in their buildings in the same form and sometimes in the same manner as by the Romans, and after the invaders left Britain tiles and bricks continued to be made in the same manner until the twelfth century, or the time of Henry II. The bricks formed during this age were not made to a standard, as at the present day. Those of the Saxons and Normans were similar in size to those made by their predecessors, and measured nearly 17½ inches long by 11½ inches broad, and were nearly 2 inches thick, but these dimensions varied in many cases, and were guided by the nature of the earth of which they were formed and by the purposes for which they were intended. The Romans, as well as the Saxons and Normans, had tiles moulded for various kinds of work; those for the pillars which supported the floors were in general circular and about 9 inches in diameter, while those used for floors and for covering roofs measured 22 inches square and upwards. At the beginning of the twelfth century the English began to change the form of bricks and tiles, and continued to do so until about the year 1320, when the extensive commerce carried on at this time by Flanders led the British to acquire a knowledge of the Flemish manners and customs, and among other things of their mode of making bricks, the forms of which, being smaller, were much more convenient than those previously in use, and were consequently adopted. These bricks, with a slight alteration in size, were the same as those at present in use. The name of bricks was not, however, given to them until about the year 1430, their previous name having been wall tiles. In the fourteenth century the wall tiles or bricks used in some buildings were made after the Flemish manner, but of various sizes, some of them being 12 inches by 6 inches and by 3 inches, and others 10½ inches by 5 inches and by 2 inches. These wall tiles were, about the year 1327, sold at 6*s.* 1*d.* the 1,000; about 1377 at 6*s.* 8*d.*; about 1400 at 5*s.* 8*d.*, and about 1420 at 6*s.* 8*d.* About the year 1490 brick, intermixed with ornaments of stone, became the most fashionable manner of building, and from this period the Flemish wall tiles have continued in use until the present time under the name of bricks.

Italian Building Corporations.

Towards the close of the tenth century the Italian corporations of builders, whose services ceased to be necessary in the countries where they had arisen, began to look abroad towards those northern climes for that employment which they no longer found at home; and a certain number united, and formed themselves into a single greater association or fraternity, which proposed to seek for occupation beyond its native land, and in any ruder foreign region, however remote, where new religious edifices and skilful artists to erect them were wanted to offer their services, and bend their steps to undertake the work. These corporations, no longer destined to exercise their profession in any single country, but in whatever regions most distant from each other might require their services, seeking a monopoly, as it were, over the whole face of Christendom, required an authority, a protection, an exclusive privilege, a prohibition to all such as were not members of their body; even the very natives of the countries whither they went as mere strangers, with the intent of wresting all the employment out of the native hands, which no single temporal sovereign could give them out of his own dominions or would give them within these. This they could only obtain in the different parts of Europe that acknowledged the religious supremacy of the Pope, from that head of the whole Latin Church. In countries that embraced the Latin creed or harboured its monastic orders, and thus became religious vassals of the Pope and professed allegiance to him, the erection of new churches and monasteries was in a manner to raise new estates to the Pope himself. The masons could be regarded only as different troops of labourers working in the cause of the Pope, as much as the missionaries who were sent before to collect business for them; and thus they obtained the requisite powers, probably soon after Charlemagne had put an end to the kingdom of Lombardy, and the fears of the Popes from that quarter by annexing those dominions to his empire. They were fraught with papal bulls or diplomas, not only confirming the corporate powers given to them by their own native sovereign on their own native soil, but granting to them in every other foreign country which they might visit for purposes connected with their association where the Latin creed was avowed and the supremacy of its spiritual head acknowledged, the right of holding, directly and solely under the Pope alone, entire exemption from all local laws and statutes, edicts of the sovereign or municipal regulations, whether with regard to the force of labour or any other binding upon the native subjects. They acquired the power not only themselves to fix the price of their labour, but to regulate whatever else might appertain to their own internal government exclusively in their own general chapters, prohibiting all native artists not admitted into their society from entering with it into any sort of competition, and all native sovereigns from supporting their subjects in such rebellion against the Church, and commanding all such temporal subjects to respect these credentials and to obey these mandates under pain of excommunication, the whole ending in a justification or sanction of the arbitrary proceedings by the ancient example of Hiram, king of Tyre, when he sent architects to King Solomon to build his temple.

Criticism of Architecture.

It is somewhat unaccountable that so very little is to be met with that can fairly be termed architectural criticism; for the enunciation of its general principles and canons is quite a different thing from the application of them to particular instances. If this be owing, as some would fain persuade us, to modern critics being restrained by motives of delicacy from freely commenting on the works of their contemporaries it is an exceedingly misplaced delicacy, and, moreover, is in more ways than one injurious to the art itself. Why should greater reserve be requisite in exercising this particular species of criticism than any other; since, if it is to be admitted as a valid one, the same argument would apply equally well with regard to other subjects of criticism? It is said that a building speaks for itself; but so also does a work of sculpture or painting, consequently that is a very lame and impotent excuse, amounting to no more than a confession that the critic is unable to particularise beauties or defects, and to show in what proportion they happen to exist in the particular composition he is noticing. A building speaks for itself; truly, so it does; but to whom? Most assuredly not to the public generally. They are not so fully enlightened in regard to architecture that criticism upon buildings is superfluous, indispensable as it may be for productions of literature and the other fine arts. It would, indeed, appear *prima facie* that architecture ought to be far better understood by persons in general than any other art since its productions stand exposed to the gaze of all; not locked up in cabinets, and there secluded from profane eyes, but thrust forth to view in our streets and highways. Undoubtedly buildings, the exterior of them at least, are seen by all; but to see is one thing, to examine and afterwards be able to appreciate is another and quite different matter; and how many of those who see ever examine? let alone the ability to form a correct judgment, or even any judgment at all afterwards. So far from being able to criticise a building there is not one person in a hundred, or even in five hundred (except professional men), who can by description convey even a tolerable idea of an edifice, though he may have been looking at it only a few hours before. If he can enumerate its principal features without half a dozen mistakes he may be set down as being tolerably well informed in architecture. In regard to architecture ignorance and dogmatism generally go hand in hand, and the less a person knows of the subject the more difficult it is to convince him that he is in error, or that he ought in some degree to mistrust his own taste. And why is it that this ignorance and dogmatism are so prevalent? In a great measure it is owing to the utter silence of criticism and to the merits of buildings not being canvassed at length, but hastily dismissed with a summary off-hand decision, either in their favour or the contrary, as if so exceedingly barren of interest, so incapable of affording matter of discussion, as not to be entitled to any exactness of inquiry.

NOTES AND COMMENTS.

WE have more than once referred to the thirteen-storeyed building in the Rue du Mont Thabor, which M. MOYAUX designed to contain the documents belonging to the Cour des Comptes. It is, however, to be considered as no more than a storehouse or a record tower for the riches created by French circumlocutionism. It is also necessary to erect a palace for so important a department, which will take the place of the building on the Quai d'Orsay, which was destroyed during the Commune. M. MOYAUX will be the architect. The palace is to stand in the Rue Cambon, and will therefore be near the lofty storehouse. As it will adjoin the Church of the Assumption, the architect has taken care that the two buildings will unite in producing a fine effect. The principal rooms in the palace will be the Grand Chambre and the Salle du Conseil, which will be adorned as finely as is in the power of French painters and sculptors. There will also be rooms for the President of the Council and various other officers. To find a site for the palace it has been found necessary to remove the schools attached to the church. Although the latter building is rarely used, the dome forms a picturesque object in views of Paris, and on that account it has survived, although suggestions for its removal are often made. The church was completed in 1676 from plans by ERARD, who was the first pupil of the Royal School of Architecture in Rome. The dome was painted by LE FOSSE. In the time of NAPOLEON it became the parish church, and was known as the Madeleine. On the conversion of the Temple of Glory into a parish church, with the same name, the Church of the Assumption ceased to have any ecclesiastical importance.

So old a firm as Messrs. JAMES STIFF & SON, of Lambeth, could not have subsisted during several generations if contracts were not carried out by them in the most honest way. It came, therefore, as a surprise to many engaged in building and other sanitary works when it was announced that one of the War Office officials had informed the Select Committee of the House of Commons on War Office Contracts that the firm had been placed on what is practically a "black list" for irregularities. On Tuesday Mr. S. T. STIFF applied to the Chairman of the committee, and said that statements affecting the firm had been incorrectly reported in several of the papers. He desired therefore to have an official copy of the evidence, so that he might proceed against the papers which had incorrectly reported that evidence, and get the matter put right. The Chairman said the committee had nothing to do, of course, with any report the newspapers might obtain through their ordinary sources of information, but as the evidence referred to the firm they were entitled to have a copy. The reputation of a trading firm should be above suspicion, and the mere announcement of what was done by the War Office might cause incalculable injury, for it could easily be imagined that the objection to Messrs. STIFF arose from supplying defective pipes, just as other firms were charged with supplying defective hay. It is therefore to be hoped equal publicity will be given to the facts of the case, in order that no prejudice against the Messrs. STIFF can arise.

AN interesting trait in the character of French artists is the affection they entertain for their birthplaces. We never hear of a great English artist caring to be remembered in the town where he was born. As soon as a man becomes a member of the Royal Academy he appears to wish that people should believe he was born in a palace, and that by condescending to become an artist he sacrificed himself and his prospects. In that respect, as in many others, there is a direct opposition between Englishmen and Frenchmen. A great French painter is proud when he is able to represent his mother as a peasant woman, and to point out the portrait to distinguished visitors. He is never so happy as when the State purchases a picture for the musée of the town where he received his first lessons in art, and when a demand is made for that purpose there is no difficulty in persuading him to accept a tithe of the value of the picture. M. BONNAT, the portrait-painter, has gone a step further than his contemporaries. He is not satisfied with presenting occasional works to his native Bayonne. He is now having erected a fine building which is to serve as a musée and a public library. M. BONNAT intends to present to it the whole of his artistic treasures, which have been so often drawn upon for English exhibitions.

ILLUSTRATIONS.

WESTMINSTER ABBEY: HENRY V. CHANTRY. DETAILS, HENRY VII.'S TOMB: ST. BARTHOLOMEW. TOMB OF HENRY VII. AND HIS QUEEN ELIZABETH.

THE best substitute for a national epic which we possess is SHAKESPEARE'S "Henry V." If DRYDEN had carried out his intention of writing one with King ARTHUR as the hero, we should have had an interesting work, but it is doubtful whether it would have had more of an inspiring character than SHAKESPEARE'S historical play. HARRY, as there described, is as good a representative of an Englishman as is to be found among all our princes. He was wild in his youth, but never mean, and he possessed the power to reform himself when the necessity arose. Although HENRY V. was a warrior he was not, like RICHARD I., a believer that the only manly course to follow was that of arms, and the argument in favour of peace which he expresses in the play was characteristic of him. As became a gentleman in the fifteenth century, HENRY was a faithful churchman, and a lover of Westminster Abbey. His father died in the Jerusalem Chamber, and in one of the chapels of the monastery HENRY V. first endeavoured to make atonement for the extravagance of his youth and early manhood. He lost no time before ordering the extension of the nave of the Abbey, and the works were carried out under the direction of the immortal RICHARD WHITTINGTON, Lord Mayor of London, who had gained reputation as an architect, in the sense the word was then understood. In his will, which was made prior to taking part in the expedition that was made memorable by the triumph of Agincourt, HENRY announced that he was to be buried in the Abbey, and precise directions were given about the erection of a separate chantry, in which 20,000 masses were to be offered up for the repose of his soul. When he died at Vincennes his French subjects, it is said, offered immense sums of money to retain his body, but the burial took place, as he desired, in Westminster. To obtain the necessary space for the chantry the relics were removed from the eastern end of the Confessor's Chapel. His helmet, shield and saddle have been preserved. As if to be in keeping with those memorials part of the decoration of the chapel became secular, consisting of representations of the king and his court and his battles with the French. The swans and antelopes of the DE BOHUNS and the flaming cresset were also introduced in the cornice. The royal effigy was made of oak covered with silver plates, but at the time of the Dissolution the metal was carried off by robbers. In 1871 Dean STANLEY restored the altar shown in the illustration, and the remains of KATHERINE OF VALOIS were deposited within it, by the authority of Her Majesty the QUEEN. We give another illustration of the tomb of HENRY VII. The countenance of the king corresponds with BACON'S description, viz.: "He was a comely personage, a little above just stature, well and straight limbed, but slender. His countenance was reverend, a little like that of a churchman: and as it was not strange or dark, so neither was it willing nor pleasing, but as the face of one well disposed. But it was to the disadvantage of the painter, for it was best when he spoke." ELIZABETH OF YORK died six years before HENRY VII., and, as the new chapel was only commenced at the time, her coffin was temporarily placed in one of the side aisles. The penurious king spent 2,332*l.* on the funeral. The statue shown of St. BARTHOLOMEW represents him as is usual carrying his skin, and it may be taken as a type of the figures which form part of the screen around the royal monument.

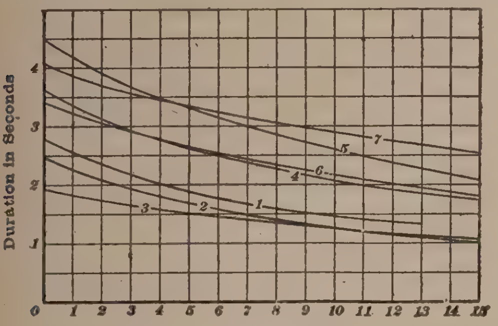
MASONIC TEMPLE, HOLBORN RESTAURANT.

RYLANDS' LIBRARY, MANCHESTER: LARGE COMMITTEE ROOM THE STAIRCASE.

ARCHITECTURAL ACOUSTICS.—III.*

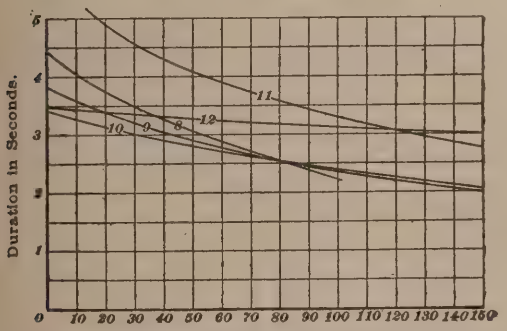
In the preceding paper it was shown that the duration of the residual sound in a particular room is proportional inversely to the absorbing power of the bounding walls and the contained material, the law being expressed closely by the formula $(a+x)\ t=k$, the formula of a displaced equilateral hyperbola. In the present paper it is proposed to show that this formula is general, and applicable to any room; that in adapting it to different rooms it is only necessary to change the value of the constant of inverse proportionality, k; that k is, in turn, proportional to the volume of the room, being equal to about 0·171 V in the present experiments, but dependent on the initial intensity of the sound; and, finally, that by substituting the value of k thus determined, and also the value of a, the absorbing power of the walls, and of x, the absorbing power of the furniture and audience, it is possible to calculate in advance of construction the duration of audibility of the residual sound.

The truth of the first proposition—the general applicability of the hyperbolic law of inverse proportionality—can be satisfactorily shown by a condensed statement of the results obtained from data collected early in the investigation. These observations were made in rooms varying extremely in size and shape, from a small committee-room to a theatre having a seating capacity for nearly 1,500. Figures 8 and 9 give the curves experimentally determined, the duration of audibility of the residual sound being plotted against running metres of cushions. Two diagrams are given in order to employ a smaller scale for the larger rooms, this scale being one-tenth the other; and even in this way there is shown but one-quarter of the curves actually obtained in rooms numbered 11 and 12, the Fogg Art Museum lecture-room and Sanders Theatre. In figure 10 each curve is entered as a part of its corresponding hyperbola referred to its asymptotes as axes. In this case three scales are employed in order to show the details more clearly, the results obtained in rooms 1 to 7 on one scale, 8 to 11 on another, and 12 on a third, the three scales being proportional to 1, 3 and 9. The continuous portions of the curves show the parts determined experimentally. Even with the scale thus changed only a very small portion of the experimentally determined parts of curves 11 and 12 are shown. Figures 11 to 16, inclusive, all drawn to the same scale, show the great variation in size and shape of the rooms tested, and the accompanying notes give for each the maximum departure and average departure of the curve, experimentally determined, from the nearest true hyperbola.



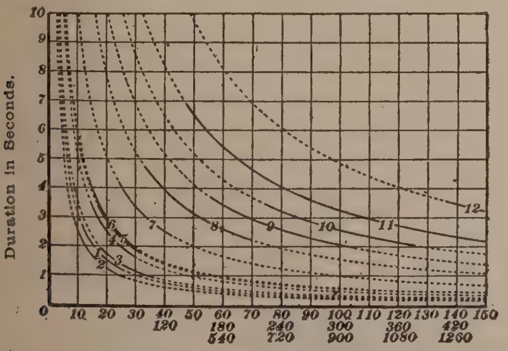
Length of Cushions in Meters.

FIGURE 8.—CURVES SHOWING THE RELATION OF THE DURATION OF THE RESIDUAL SOUND TO THE ADDED ABSORBING MATERIAL. ROOMS 1-7.



Length of Cushions in Meters.

FIGURE 9.—CURVES SHOWING THE RELATION OF THE DURATION OF THE RESIDUAL SOUND TO THE ADDED ABSORBING MATERIAL. ROOMS 8-12.



Total Absorbent Material, Including Walls.

FIGURE 10.—THE CURVES OF FIGURES 8 AND 9 ENTERED AS PARTS OF THEIR CORRESPONDING RECTANGULAR HYPERBOLAS. THREE SCALES ARE EMPLOYED FOR THE VOLUMES, BY GROUPS, 1-7 8-11 AND 12.

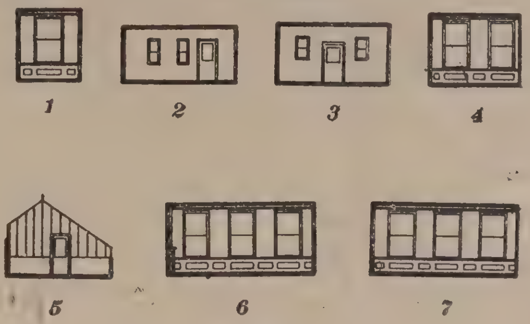


FIGURE 11.

1. Committee-room, University Hall—plaster on wood lath, wood dado; volume, 65 cubic metres; original duration of residual sound before the introduction of any cushions, 2·82 seconds; maximum departure of experimentally determined curve from the nearest hyperbola, 0·09 second; average departure, 0·03 second.

2. Laboratory, Botanic Gardens of Harvard University—hard pine walls and ceiling, cement floor; volume, 82 cubic metres; original duration of the residual sound, 2·39 seconds; maximum departure from hyperbola, 0·09 second; average departure, 0·02 second.

3. Office, Botanic Gardens—hard pine walls, ceiling and floor; volume, 99 cubic metres; original duration of residual sound, 1·91 second; maximum departure from hyperbola, 0·01 second; average departure, 0·00 second.

4. Recorder's Office, University Hall—plaster on wood lath, wood dado; volume, 102 cubic metres; original duration of residual sound, 3·68 seconds; maximum departure from hyperbola, 0·10 second; average departure, 0·04 second.

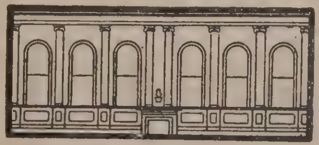


FIGURE 12.

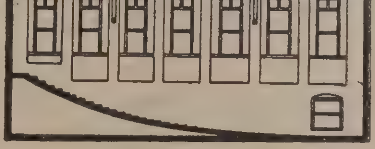


FIGURE 13.

5. Greenhouse, Botanic Gardens—glass roof and sides, cement floor; volume, 134 cubic metres; original duration of residual sound, 4·40 seconds; maximum departure from hyperbola, 0·08 second; average departure, 0·03 second.

6. Dean's Room, University Hall—plaster on wood lath, wood dado; volume, 166 cubic metres; original duration of residual sound, 3·38 seconds; maximum departure from hyperbola, 0·06 second; average departure, 0·01 second.

7. Clerk's Room, University Hall—plaster on wood lath, wood dado; volume, 221 cubic metres; original duration of residual sound, 4·10 seconds; maximum departure from hyperbola, 0·10 second; average departure, 0·02 second.

8. Faculty Room, University Hall—plaster on wood lath, wood dado; volume, 1,480 cubic metres; original duration of residual sound, 7·04 seconds; maximum departure from hyperbola, 0·18 second; average departure, 0·08 second.

9. Lecture Room, Jefferson Physical Laboratory; brick walls, plaster on wood lath ceiling; furnished; volume, 1,630 cubic metres; original duration of residual sound, 3·91 seconds; maximum departure from hyperbola, 1·00 second; average departure, 0·04 second.

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* A paper by Professor Wallace C. Sabine, Harvard University

10. Large Laboratory, room 41, Jefferson Laboratory—brick walls, plaster on wood lath ceiling; furnished; volume, 1,960 cubic metres; original duration of residual sound, 3·40 seconds; maximum departure from hyperbola, 0·03 second; average departure, 0·01 second.

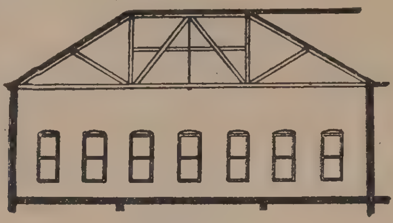

FIGURE 14.

11. Lecture Room, Fogg Art Museum—plaster on tile walls, plaster on wire lath ceiling; volume, 2,740 cubic metres; original duration of residual sound, 5·61 seconds; maximum departure from hyperbola, 0·04 second; average departure, 0·02 second. The experiments in this room were carried so far that the original duration of residual sound of 5·61 seconds was reduced to 0·75 second.

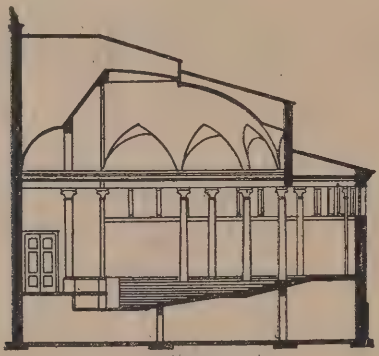

FIGURE 15.

12. Sanders Theatre—plaster on wood lath, but with a great deal of hard wood sheathing used in the interior finish; volume, 9,300 cubic metres; original duration of residual sound, 3·42 seconds; maximum departure from hyperbola, 0·07 second; average departure, 0·02 second.

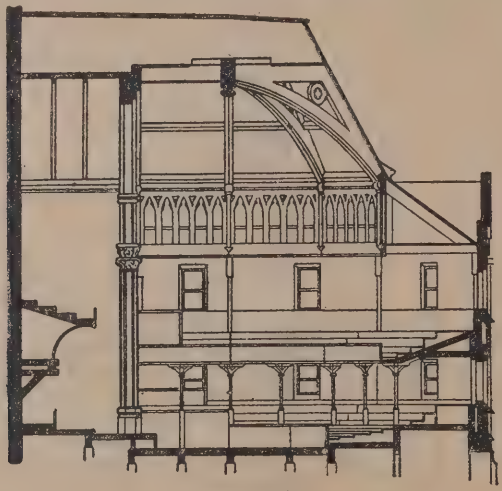

FIGURE 16.

It thus appears that the hyperbolic law of inverse proportionality holds under extremely diverse conditions in regard to the size, shape, and material of the room. And as the cushions used in the calibration were placed about quite at random, it also appears that in rooms, small or large, with high or low ceiling, with flat or curved walls or ceiling, even in rooms with galleries, the cushions, wherever placed—out from under the gallery, under or in the gallery—are nearly equally efficacious as absorbents. This merely means, however, that the efficacy of an absorbent is independent of its position when the problem under consideration is that of reverberation, and that the sound dispersed by regular and irregular reflection and by diffraction is of nearly the same intensity at all parts of the room soon after the source has ceased; and it will be the object of a subsequent paper to show that in respect to the initial distribution of the sound, and also in respect to discrete echoes, the position of the absorbent is a matter of prime importance.

Having shown that the hyperbolic law is a general one, interest centres in the parameter, *k*, the constant for any one room, but varying from room to room, as the following table shows:—

Room.	Volume.	Absorbing Power of Walls, &c. $=a$.	Parameter. k.
1. Committee-room, U. H.	65	4·76	13·6
2. Lab. Bot. Gardens	82	4·65	11·1
3. Office, Bot. Gardens	99	8·08	15·4
4. Recorder's Office	102	5·91	21·8
5. Greenhouse, Bot. Gardens	134	5·87	25·8
6. Dean's Room	166	7·50	25·4
7. Clerk's Room	221	10·6	43·5
8. Faculty Room	1480	34·5	243·0
9. Lecture Room, J. P. L. 1	1630	69·0	270·0
10. Laboratory, J. P. L. 41	1960	101·0	345·0
11. Fogg Lecture Room	2740	75·0	425·0
12. Sanders Theatre	9300	465·0	1590·0

The values of the absorbing power, *a*, and the parameter, *k*, are here expressed, not in terms of the cushions actually used in the experiments, but in terms of the open window units, shown to be preferable in the preceding article. In the diagram, figure 17, the values of *k* are plotted against the corresponding values of the rooms; here again three different scales are employed in order to magnify the results obtained in the smaller rooms. The resulting straight line shows that the value of *k* is proportional to the volume of the room: and it is to be observed that the largest room was nearly 150 times larger than the smallest. By measurements of the co-ordinates of the line, or by averaging the results found in calculating $\frac{k}{V}$ for all the rooms, it appears that $k = 0{\cdot}171\,V$. The physical significance of this numerical magnitude, 0·171, will be explained later.

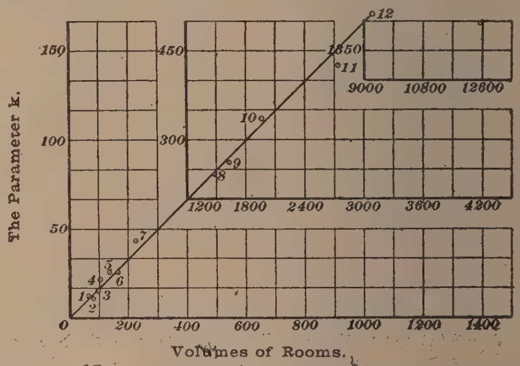

FIGURE 17.—THE PARAMETER K PLOTTED AGAINST THE VOLUMES OF THE ROOMS, SHOWING THE TWO NEARLY PROPORTIONAL.

This simple relationship between the value of *k* and the volume of the room—the rooms tested varying so greatly in size and shape—affords additional proof, by a rather delicate test, of the accuracy of the method of experimenting, for it shows that the experimentally determined curves approximate not merely to hyperbolas but to a systematic family of hyperbolas. It also furnishes a more pleasing prospect, for the laborious handling of cushions will be unnecessary. A single experiment in a room, and a knowledge of the volume of the room will furnish sufficient data for the calculation of the absorbing power of its components. Conversely, a knowledge of the volume of a room and of the coefficients of absorption of its various components, including the audience for which it is designed, will enable one to calculate in advance of construction the duration of audibility of the residual sound, which measures that acoustical property of a room commonly called reverberation. Therefore this phase of the problem is solved to a first approximation.

The explanation of the fact that *k* is proportional to *V* is found in the following reasoning:—Consider two rooms, constructed of exactly the same materials, similar in relative proportions, but one larger than the other. The rooms being empty, *x*, the absorbing power of the contained material, is zero, and we have $a' t' = k'$ and $a'' t'' = k''$. Since the rooms are constructed of the same materials, the coefficients of absorption are the same, so that a' and a'' are proportional to the surfaces of the rooms—that is, to the squares of the linear dimensions. Also the residual sound is diminished a certain percentage at each reflection, and the more frequent these reflections are the shorter is the duration of its audibility; whence t' and t'' are inversely proportional to the frequency of the reflections, and hence directly proportional to the linear dimensions. Therefore k' and k'', which are equal to $a' t'$ and $a'' t''$, are proportional to the cubes of the linear dimensions, and hence to the volumes of the rooms.

Further, when the shape of the room varies, the volume remaining the same, the number of reflections per second will vary. Therefore *k* is a function not merely of the volume, but also of the shape of the room. But that it is only a slightly varying function, comparatively, of the shape of the room for practical cases, is shown by the fact that the points fall so near the straight line that averages the values of the ratio $\frac{k}{V}$.

The value of k is also a function of the initial intensity of the sound, but the consideration of this element will be taken up in a following paper.

THE ARCHITECTURAL ASSOCIATION.

A MEETING of the Association was held on Friday evening last, Mr. G. H. Fellowes Prynne, president, in the chair.

The following were elected members:—Messrs. T. S. Gregson, J. A. Hallam, F. C. R. Palmer, W. H. Stonebridge and R. J. Goulston.

A vote of thanks on the motion of the President was unanimously accorded to the ladies and gentlemen who had aided in the performances of the Soirée on the 10th inst.

Mr. Alexander Payne read the following paper on

Egyptian Temples.

I think I may say without fear of contradiction that in studying the temples of Egypt we are studying the earliest monuments that exist devoted to religion and erected by what was the most civilised nation of the ancient world.

There is evidence to show that most of the religions of the ancient world were derived from a common origin, and had for their main idea either the worship of the powers of nature or as regarding nature as a theatre descriptive of divine things. The ancient vedic hymns of India were addressed to the powers of nature, and the fact that the different days of the week are to this day dedicated in English or French to different planets is evidence that the religions of the Gothic tribes coming from central Asia were derived from the same source. The most probable conjecture of the object of the Druidical circles of stones is that they were devoted to the worship of the heavenly bodies, and the name Baalbec, afterwards Heliopolis, shows that the worship of the sun dated from a very early period in Syria. That the religion of the Greeks and Romans had much from the same source is well known, and we know from Herodotus that the Greeks regarded the Egyptian as a civilisation earlier than their own and to be greatly venerated. In Egypt it is certain from the monuments themselves and the representations on them that their early worship was derived from the phenomena of nature, the rise and setting of the sun and moon and stars, the waxing and waning of the moon, and so forth, and fortunately we have from Egyptian hieroglyphics a full description of what took place in each room of the temples, where staircases were provided leading up to the flat roofs, so that certain ceremonies might take place in full view of the heavenly bodies in honour of whom the services were held.

When the Greeks and Romans successively conquered Egypt and made it a province of their empires, no attempt was made to disturb their worship and religion, so similar in some respects to their own; in fact, the Egyptian deities were at once adopted as part of the State religion, and vast sums were spent in the restoration of the ancient temples evidently under the direction of the Egyptian priesthood, and, judging from the inscriptions, with the most scrupulous conservatism of the ancient plan and purpose Probably no such splendid restorations exist as those of the Ptolemies of the ancient temples of Edfu and Denderah, which have preserved to us in its simplest and complete form what may be regarded as the typical temple of the Egyptians as used for worship for a period of at least 4,000 years, if not more.

It is not certain where the Egyptians came from. Probably from their regarding the land of Punt (either in Arabia or at the extreme south-east of the Red Sea) as the Holy Land, they came from the east. Abydos has been called the cradle of Egypt, but the seat of the first settled monarchy appears to have been the great city of Memphis, just south of modern Cairo, and said to have been founded by Menes, the first historic king, about 4000 B.C. This city must have been one of the largest of the ancient world, and the ruins of an immense place remained as late as the twelfth century A.D.; but owing to the inundations of the Nile nothing remains of it at the present day but a few earth-mounds and two colossal statues, which stood in front of the great Temple of Ptah, and the pyramids and innumerable tombs built on the uplands west of the Nile, which formed the great cemetery of the city and amongst which the famed pyramids of Gizeh formed the chief. These are surrounded by whole streets of tombs, which are said by the Arabs to extend for two or three days' journey into the desert, and alone would give an idea of the vast populations in the valley of the Nile who were buried there. The inundations of the Nile have also destroyed almost every vestige of the large cities which once existed in the Delta, so that it is necessary to go 200 or 300 miles up the Nile before reaching extensive remains of temples. The whole valley of the Nile, including the river itself, would appear to have risen since the times of ancient Egypt, so that the temples of Denderah and Edfu, which will be described in detail, are now some 30 feet or 40 feet below the level of the ground, and have had to be dug out quite recently for their complete examination, and are now under the care of the Government as ancient monuments. There are also extensive remains at Kom Ombos, Esneh, Philæ and other places on the river. Some ruins which existed at the time of the great French expedition under Napoleon have now disappeared, but it is at ancient Thebes that an idea of the magnificence of ancient Egypt can be best obtained. The ruins of temples and buildings here exceed those left in the remainder of Egypt altogether, if we except the pyramids, and are far more extensive than anything remaining either at Rome or Athens. The site of the ancient city being mostly above the level of the inundation, has escaped the destruction that has fallen upon other cities.

Thebes dates from a high antiquity, and a few of the more ancient parts of its temples are from the times of the eleventh dynasty, about 2500 B.C.; but under the Pharaohs of the nineteenth dynasty (about 1400 B.C.), Seti I. and Rameses II., &c., the chief seat of government was transferred from Memphis to Thebes, and the city was embellished with the magnificent temples of which the ruins now remain. The great group of Karnac alone is nearly a mile long and one-third of a mile wide, and comprises a whole assemblage of temples connected together by avenues of sphinxes. From this group there are remains of an avenue of sphinxes to the Temple of Luxor on the banks of the Nile, about one mile to the south, where are the ruins of one of the finest temples which remain. These are all built on the east bank of the river. On the west bank there is a series of temples, or rather mortuary buildings, erected by various Pharaohs to the memory of themselves and their ancestors, and further from the river, under the mountains containing the tombs of the kings and the vast cemetery of Thebes, was the mortuary temple, Der-el-Bahri, described in this room last year. These buildings are mostly far too complicated and elaborate to describe in the limits of a single paper. Moreover, they show in many instances a departure from the original and simple plan of the early temples dedicated to the gods; the monarchs of this period would seem to have been almost intoxicated by the grandeur of the empire and the extent of its foreign conquests, and the temples are covered with inscriptions of their own glorious deeds, and though the credit of them is all ascribed to the gods, the prevailing sentiment seems their own glorification. Probably no man in the world ever had more statues erected to his memory than Rameses II., and the cost of them would exceed many millions sterling of our money. This Rameses is generally supposed to be the Pharaoh of the oppression, and to have shortly preceded the time of the Exodus.

In describing the ceremonies that took place at the temples, which were in the main theatrical exhibitions of the phenomena of nature, it is necessary to form some idea of Egyptian cosmogony. They imagined the world to be a vast plain suspended in space, of which Egypt, with the Nile running through it, was the centre, and by far the most important part, the nations round being comparatively barbarous and uncultivated. Below this plain was stretched out the plain of the nether world, with another Egypt and Nile almost the counterpart of those in this world; the sun and moon and heavenly bodies, after traversing above the world, descended in the west and passed back again over the plain of the nether world, rising again in the east. All the spirits of the departed went to the nether world, and those that were judged worthy of continuing life remained there with the same avocations and amusements that had occupied them in this world.

I propose now to put on the screen a few slides showing views in the neighbourhood of Cairo.

13. Is a distant view of the Great Pyramids at Gizeh, showing how they are elevated on a plateau above the general plain of the river Nile; the palm trees in front make this a characteristic Egyptian view.

14. Is a nearer view of the Pyramids, the Great Pyramid being at the back; at the top of the centre one may be seen a portion of the old stone casing remaining.

15. Shows the colossal Sphinx, partly excavated, with the ruins of a small temple and altar between its paws; to give an idea of the scale, the ear is 4 feet 6 inches high.

12. Is a view of a subterranean temple near this Sphinx, constructed of huge blocks of granite, supposed to date from the time of Chephren (about 3500 B.C.).

20. Is a view of the great step Pyramid of Sakkara, near the site of ancient Memphis, older than the Great Pyramid and said to date from 4300 B.C. (B M.).

19. Shows part of the interior of the Mausoleum of Sacred Bulls at Sakkara; each bull was buried in an enormous granite sarcophagus.

17. Is a photograph of a gigantic statue of Rameses II., which formerly stood in front of the Temple of Ptah at Memphis, and is one of the few remains of that vast city.

16 and 18. Are statues from the museum of Gizeh, which show the great excellence the Egyptians had obtained in the art of sculpture at a period almost antecedent to the date formerly given to the creation of the world. 16. Shows a leader of infantry and his wife, a princess, in limestone, said to date from the Third Dynasty, the expression of the faces being wonderfully lifelike. 18. Is a statue in wood of an inspector of workmen, or, shall we say, perhaps an architect, probably nearly 6,000 years old (Fourth Dynasty). Statues of this period show the Egyptians of a more thickset and robust type than those in later times.

We must now journey some 300 miles up the Nile before we come to any considerable remains of a temple. I may just be allowed to state that travelling on the Nile is a most delightful way of spending a holiday at the time of year when I made the journey, viz. early in March, when the climate of Egypt is absolute perfection, day after day of splendid sunshine, with just enough fleecy cloud about to give variety, and the warm sun, tempered by a delicious wind from the north, refreshing and bracing, all combine to produce an effect like the finest summer weather in England, and this renewed day after day with absolute certainty. The dust from the desert, which is one of the great inconveniences of Egypt, does not affect us on the river, though now and then we see it whirling along like a waterspout of sand or pillar of cloud in the distance.

The river is also enlivened by the numerous dhows, or native boats, with their large triangular white sails scudding through the water at a fine rate before the north wind, sometimes even quicker than the steamer; the banks are picturesque, with groups of palm and sycamore trees, and here and there native villages; there are also occasional sugar factories with chimney stacks which remind one of an English town, and do not improve the landscape.

The prospect on the Nile from each side is bounded by the Arabian and Libyan mountains, sometimes rising in most picturesque forms and thrown out by the light and shadow of the brilliant sunshine. The colours at sunrise and sunset are magnificent, and one cannot wonder that the Egyptians derived their ideas of the divinity from the glorious orb traversing their country each day from east to west in such splendour, and followed at night by the moon and stars. But I must pass on to our first temple, which is at Denderah.

On arrival at the landing-place, a ride of twenty minutes through fields brought us to the temple and the site of the ancient Egyptian town. We now have to descend a staircase to the level of the temple floor, the rubbish from which has been cleared out and the building placed in charge of a keeper in the pay of the Government. This temple, as it actually stands, was rebuilt in the time of the Ptolemies, the decorations of which continued down to the time of the Roman emperors, but the inscriptions show that it was a restoration of an older temple which stood at the same place from the very earliest times. One inscription says:—"The great building plan of Ant (Denderah) was found written in ancient characters on hide of the times of the successors of Horus." Another inscription says that King Totmes III. made a restoration of this monument found described in ancient characters of the time of King Khufu (the builder of the Great Pyramid of Gizeh). Thus it appears that the Egyptians regarded themselves as the keepers of the sacred plans of the religious buildings, which were handed down by writing and tradition from the most ancient times, and were not deviated from in any essential particular; we may therefore regard them as models of the ancient temples which existed from the earliest time, and it is interesting to notice many features in common between them and the Tabernacle erected by Moses by divine command and the temples of Ezekiel and Herod, and also the temples of the Greeks and Romans; there is as much similarity in the plan and arrangement of the great temples of Egypt as there is between the different cathedrals of the Christian Church. This temple of Denderah was dedicated to Hathor.

Egyptian mythology is complicated by the fact that in various localities different names are applied to the same idea. The fundamental principle seems to have been to regard the heavenly bodies and powers of nature as symbols of the attributes of the deity, and in most localities there is a divine Trinity. First, there is the masculine or creative principle, symbolised by the sun, and called Ra-Harmachis at Heliopolis, Amen-Ra at Thebes, and so on, and in the philosophical idea representing the powers of goodness and light as opposed to evil and darkness. Secondly, there is the feminine or receptive and maternal principle, symbolised by the moon and stars, and called Isis, Hathor, Muth and several other names, and in the philosophical idea representing truth and faith, which keep alive and preserve the powers of goodness in states of decline symbolised by the night. Finally, as the result of a marriage or union between these two, there follows the third principle, the new-born day, represented by the sun rising again, and called Horus, and in the philosophical idea representing the resurrection and regeneration, and the dawn of a new era of religion and civilisation in the world. The ceremonies and processions which took place in the temples would appear to have been theatrical representations of what takes place in nature, each hour and day being symbolised as a separate deity, and the great event being the triumph of the sun over the powers of darkness and its bursting forth in renewed splendour at the opening of day.

"Hathor" literally means "the House of Horus," evidently the power which preserves and protects the youthful deity, that is, the rising sun, till the time for his rising in glory before the world. There was probably an entrance court before the temple of Hathor, at Denderah, but if so it has been destroyed, and now one enters directly into a hall or porch, supported by twenty-four columns; this is the Hypostyle Hall or Khent Hall—that is, front room. It is 143 feet broad, 80 feet deep and about 50 feet high; it is a most noble apartment of harmonious proportions, and at once strikes the beholder with its grandeur; the walls are decorated with reliefs recording the various Pharaohs who built or restored the temple, representing them as ascribing all to the gods and making their offering of the temple to them. The ceiling represents the firmament and stars; at each end is a figure of the goddess Nut, who represents the firmament of heaven in the form of a tall woman bending over and touching the ground with her hands as the firmament appears to bend over the earth. On other parts of the ceiling are representations of the signs of the zodiac, with figures of the twelve gods of the hours of the night ascending on the east side and descending on the west side. The moon is also represented by fourteen divinities ascending steps, the fourteen days of the crescent moon, and fourteen divinities descending steps, the fourteen days of the waning moon; the twelve hours of the day are represented by twelve divinities, each in the sun's disc, sailing in boats across the vault of heaven.

Passing through this room, with its beautiful and massive columns covered with inscriptions, we proceed along the central axis of the temple into the Hall of the Appearance, so called because the statue of Hathor, "the golden-rayed," was brought on festive occasions from the Holy of Holies in the rear into this hall to be exhibited to the people, who did not advance beyond the front room; this room is 45 feet 6 inches square, and the ceiling is supported by six columns. The representations on the walls describe the ceremonies that the Pharaoh had to go through as chief priest before entering to worship the goddess: he enters the hall carrying a staff and covered with a long garment, preceded by a priest dressed in a panther's skin (the sign of a priest), who sprinkled incense on a burning censer; he lays his robe aside and bends before the image of Hathor; then he goes through the act of cleaving at the ground with a short plough—this means turning the first sod for the site of the temple; then he smites a blow with a hammer on a stone—this is laying the foundation-stone; then he shapes the first brick for the enclosing walls; afterwards we see him before Hathor with a building tool in his hands, and he is said to utter this sentence, "I have built the monument, the great one, as a perfect building to all eternity." Thus the king himself was actually to commence the temple, which was supposed to be built under his immediate auspices on the old and sacred pattern as an offering to the gods.

There were three small rooms on each side of the Hall of Appearance; one of those on the left side was the temple laboratory, where the incense, oils and ointments were prepared for the temple services, as the inscriptions thereon show. The Egyptians were so skilful in matters of this sort that the word chemistry is derived from Khem, the ancient name of the land of Egypt. The second room is called the Assembly-room, and it is supposed the offerings were placed here on the festal days. The third room afforded a passage out of the temple. One room on the right or west side was called the Silver-room, and contained the jewels and ornaments of the divine image and temple utensils of costly materials, as shown in the inscription which gives the uses of the room.

The second room formed an exit from the temple on that side; the third room formed a sort of anteroom to the staircase leading to the roof on that side.

Following the main axis of the temple, the next room is called the Hall of the Altar, immediately behind the Hall of the Appearance. On the left from this a small anteroom leads to a long straight staircase ascending to the roof. There is also a room on this side called the Room of Purification, probably used in the preparations for festival ceremonies. On the other side is another staircase, of short flights, winding round a square with landings at the angles, and ascending to the roof; the inscriptions on these rooms and staircases refer to the great New Year's festival, on which occasion there was a solemn procession of the priests carrying images of the deity through the temple and afterwards to the roof, symbolising the union of the goddess Hathor with Ra—the sun—on this festival day, the first of the year. This is given in the usual symbolical language of the Egyptian myths, taken from astronomical events. The inscriptions relate that "the goddess comes in her beautiful festival that her spirit may unite in the heavens with her father; she rests on her throne in the place of beholding the sun's disc when the bright one unites with the bright one"—that is, the sun with the moon. This procession is pictorially displayed on the walls of the staircase; the standards of the various gods and goddesses are shown carried along in the solemn procession with the king and queen of Egypt and priests and priestesses, and the shrines holding the sacred images. On the roof is a small temple, from which the rising sun or the moon and the stars could be seen, and which, presumably, formed the goal of the procession before proceeding down the other staircase. The next room in the centre of the temple axis behind the Hall of the Altar is called the "Hall of the Cycle of the Gods," or the "Middle Hall," and this is immediately in front of the cellar, adytum or Holy of Holies. This sanctuary is surrounded by a passage round which are a series of small rooms used in the services of the temple. The room on the left of the middle hall is called the "cloth room;" here were kept the sacred garments and perfumes; and the room on the right is the chief festal room; this opens into the two adjoining rooms, which together form a small separate temple like a side-chapel, one being open to the air as a court with a sanctuary behind it. At Edfu this is called "the room for offering what is necessary," and it was probably used for special or subordinate services like the side-chapel of a church. The sanctuary of this small temple is approached by seven steps and is adorned by two columns in front. On the ceiling is a painting of the firmament with the tall woman leaning over and touching the earth with her hands and feet; the sun is represented as resting in her lap, his beams shining upon the head of Hathor, who is shown sitting on the Sun mountain; may this not mean the sun transferring his splendour during the night to the moon or Hathor? The Holy of Holies, together with the other rooms round it, are called the "hidden secret chambers." The Holy of Holies was called "the dwelling of the golden one," and was the repository of the sacred boat or ark. This could only be entered by the ruler of Egypt as supreme pontiff, and by him only once a year, on the great festival of the new year, like the high priest amongst the Jews (see Lev. xvi). He is shown on the inscriptions breaking the seal of the door and going on towards the figure of the goddess and offering her homage. Of the eleven small rooms immediately surrounding the sanctuary the one at the back was called the "Dwelling of Hathor," and was probably where her statue was kept; the next on the left was called the "vase room" and the next the "sistrim room." The first room on the right was called the "Restoration of the Body" and the next the "Birth room." The next is the "Sokar room," in which Osiris renewed his limbs; the next is called the "Union of the Two Lands." These rooms refer to the myth of the sun god Osiris, afterwards Horus, whose enemies have been destroyed, who has conquered the powers of darkness and who has then risen from the nether world with the assistance of Hathor or Isis. According to the myth, Typhon (who represents evil) had cut the body of Osiris in pieces and scattered it over Egypt, which pieces were collected by Isis and finally restored to life.

Next to the dwelling of Hathor is "The Chamber of Flames," where the goddess is represented exterminating evil with fire; the next is called the "Throne Room of Ra"—the Sun—where the Pharaoh (who represented the Deity on earth) is shown destroying a crocodile (evil) with his lance. On the west side are the "Rooms of Purification" and "The Room of a Necklace," where the king is shown presenting a necklace to Hathor. In the thickness of the walls of the temple are twelve crypts or secret chambers, in which it is supposed the treasures were kept, and the entrances to which were ingeniously concealed.

On the roof were six rooms, three on the east and three on the west side, devoted to the worship of the slain and risen Osiris, as shown by the inscriptions. In one of these was a curious representation of the zodiac, now in the Bibliothèque Nationale at Paris.

I have passed by Abydos, where there are interesting mortuary buildings, with some of the most beautiful sculptures of Egypt, dating from the time of Seti I.; and shortly above Denderah we come to Thebes, with the great temples of Karnac and Luxor. It is quite impossible in the limits of one evening to describe these in detail, but I show a few slides relating to them.

34. Shows the great hall at Denderah, just described, with what are called Hathor capitals.

41. Gives sculptures from Abydos; the great refinement of the work will be easily noticed.

The following photographs are from the great temple at Karnac:—

11. Is a general view.

22 and 29. Are from the great hall, some of the columns of which have recently fallen.

28 and 47. Show the central avenue of same hall.

23. Shows one of the great obelisks in the interior of the temple.

5. Is from Mr. Spiers's book, showing a small subsidiary temple off the first court of the main temple at Karnac.

17. Is a general view of Luxor from the Nile, with boat.

25 and 26. Views of the colonnades at Luxor.

24. Shows the colossal statues of Rameses between the columns at Luxor.

30. Shows the pylons and obelisk in front of Luxor Temple.

The following are from the buildings on the west bank of the river at Thebes:—

9. Is of the celebrated colossi of Thebes, which are covered with inscriptions by Greek and Roman tourists; they were erected in front of a temple of Amenhotep III., now disappeared.

3 and 27. From the temple at Medinet.

31. Shows the broken fallen statue of Rameses II. of greater size even than the colossi, and, I believe, the largest statue in the world.

10. Sculptures from Thebes.

Note.—Almost all the temples on the west bank of the river were mortuary buildings, the west or setting sun being devoted to the dead.

We next make a stop at Esneh, 484 miles above Cairo, where are the remains of the hypostyle, or front room corresponding with the similar apartment already described for Denderah; it is a very noble specimen, in excellent preservation. The size of the hall is 108 feet by 52½ feet, and is supported by twenty-four columns 37 feet high. There are high abaci over the capitals of the columns, on which rest the massive architraves, and again on these the roofing blocks, varying from 22 to 26 feet long and 6 feet 6 inches wide. It is calculated that there are 110,000 cubic feet of sandstone in this hall alone, and the whole of the interior is covered with inscriptions. According to these the hall was founded not later than Totmes III. (eighteenth dynasty) and afterwards rebuilt by the Ptolemies; it was dedicated to the ram-headed Khum-Ra, one of the representatives of the sun-god, and signifying the union between the rising and setting sun. The signification of the name is "The Uniting." As usual, there are two deities associated with him, forming a trinity; in this case Nebunt, a form of Isis, and Hirka, a form of Horus, the rising sun.

The hall is remarkable for the great beauty of the capitals of its columns, which differ from one another, but are not discordant. The sculptor has derived his inspiration from the lotus, palm and other foliage; these are beautifully carved round the bells of the capitals, they are bound round with rings or cords carved in stones (annuli) between the capitals and the columns, all at the same height, and the inscriptions consist mostly of descriptions of the gifts and offerings to the temple. Some illustrations will be given of this hall.

A few miles above Esneh is Edfu, a little village in which stands the most complete specimen extant of an ancient Egyptian temple. The plan is almost the same as that at Denderah, with the addition of a large court surrounded by a colonnade in front of the temple, entered by a huge pylon or gateway, with two pyramidically-shaped massive towers, which originally formed the main entrance to all Egyptian temples. There is also a girdle or encircling wall going round the whole temple and forming an outer protection, which probably originally existed round most Egyptian temples. It is scarcely necessary to describe this one in detail, as the internal arrangements are so much like the one at Denderah. The pylons in front, or "watch towers" as they are called in the inscriptions, are 100 feet high; an easy staircase surrounded with good hewn stone in large blocks in the pylon ascends to the summit, from which in the evening light a magnificent view is obtained of the winding Nile, with its narrow fringe of cultivated land, bounded by the picturesque but barren mountains which border the valley and the desert beyond.

In front of the pylons are four vertical deep niches, in which were placed the higher flagstaff, covered with copper, as the inscriptions tell us, "to avert the storms of Heaven;" in other words, they acted as lightning conductors as well as flagstaffs, another proof of the scientific attainments of the Egyptians. The rubbish of ages has so accumulated round these temples that the floors now appear sunk some 20 feet or so below the general level of the ground, but the temple itself has been cleared by the Government and exists in excellent preservation.

The open court in front of this temple (which is wanting in Denderah) is spacious and open to the sky, paved with flags and surrounded by thirty-two columns on the south or front, the east and west sides forming a colonnade. The temple itself is sacred to Horus (the sun at his rising). The orientation is exactly the opposite to that at the temple of Denderah, the front of which faces north, whereas this temple faces south—that is, it faces the position of the sun during the daytime, whereas the one at Denderah, dedicated to the gods and goddesses of night, faces the position of the sun in the nether world, according to Egyptian ideas, during the night. The temple was rebuilt during the reigns of the Ptolemies, but the inscriptions inform us that it was carried out according to the plan of the great writing that fell from Heaven to the north of Memphis. It is further stated that the Great Hall was built according to the arrangements of temples written by Kherheb Imhotep, son of the god Ptah; this shows that the Egyptians in the arrangements of their temples rigidly adhered to the traditions handed down to them from antiquity and preserved amongst them in writing. As at Denderah, a history of this particular temple, and a description of the rooms and the uses to which they were put, is given in the inscriptions on the walls. The inscriptions also give a detailed account of the restoration of the temple, and of the great festival which took place at its opening and dedication, and how the king himself, along with the goddess Safekh (the goddess of sacred writing and history), laid the foundations of the adytum (the Holy of Holies), the starting-point for determining its halls and the part of the temple usually built first. The side chambers of the building were placed in proper order "according to the directions of those acquainted with the rules, the sacred architects of the temple working with the lord of the papyrus writing." From the foundation of the new temple to its completion and the festal entry of the deity B.C. 142 was a period of ninety-five years.

Following the front court we come upon the Hypostyle Hall, or front room, which forms the first room at Denderah as it now stands. This hall contains, against the front wall and between the pillars, two little rooms, one on each side like chapels, which we learn from the inscriptions were intended, the one on the left as an incense chamber to hold the incense and holy water required on religious festivals, and the one on the right a chamber or safe for the sacred rolls and books of the temple, a catalogue being given on the walls.

The ceiling of this hall is covered with astronomical representations; to the left are the first six hours of the night, and to the right the second six. Over the door the sun's disc is represented rising from the horizon with attendant deities, and below in an attitude of worship is the personification of the four senses; to the right the eye and ear symbolising sight and hearing, and to the left taste (a tongue) and reason. The planets are also portrayed, with fourteen deities ascending steps representing the fourteen days of the waxing moon, and fourteen others descending to symbolise the fourteen days of the waning moon. There are also the representatives of the twelve months and of the thirty days of each month.

The hall following the front room at Denderah (a temple sacred to the gods of the night) is called the "Hall of the Appearance," and the next room the "Hall of the Altar." Then comes the "Hall of the Cycle of the Gods." I suggest that this is because after the sun has run his course at night he appears in the hall to the worshippers in all his glory, Hathor being on such occasions called the Golden Beamed and the sun goddess, and all the powers of Heaven are, as it were, awake to their duties; but the corresponding rooms at the temple of Horus (a god of day) at Edfu are called the "Festal Hall" and the "Hall of the Repose of the Gods," which seem to indicate the refreshment and repose of the deities after the day's work is done. The description of the rooms round about the sanctuary is also somewhat different to those at Denderah; the one immediately behind the sanctuary is called the "Chief Apartment," "the very secret place of the dispenser of rays," and it is intimated that the goddesses are with him and do not desert him. This seems to mean that the sun had set. Then came three rooms sacred to Osiris; that is, the sun in the nether world. Then there is a room called the "Room of the Spreading of Wings," and the destruction of Osiris's enemies is represented in the "Goal of Millions," that is, the nether world. These probably represent the sun or the god of light triumphant over the powers of darkness, and generally the resurrection.

On the inner side of the girdle wall, on the west side of the temple, is an interesting representation of Horus fighting with and overcoming his enemies, depicted by a hippopotamus; and it is represented in twenty-two scenes, the work being done with the assistance of the Pharaoh who is the representative of the god on earth. In the first scene the king, standing on shore, attempts to transfix the hippopotamus with a spear, which turns its head on one side. Horus, with a javelin in his right hand and a chain in his left, and accompanied by Isis, attempts to do the same; afterwards Horus secures the hippopotamus with the chain, and transfixes it with his javelin. In some of the scenes the Pharaoh and the god and goddesses are presented in sailing boats and ships.

A few miles above Edfu the channel of the Nile contracts and passes through a chain of sandstone mountains, which are extensively quarried. Vast chasms are cut down through the mountains in every direction as if they had been sawn, the tool marks of some such instrument as a saw being plainly visible. These were the quarries of ancient Thebes, and extend for miles, and in some cases it looks, from the débris that is left, as if a whole mountain had been removed, leaving nothing but a detached mass of rock here and there. If no temples had remained these quarries alone would bear witness to the enormous works carried out by the ancient Egyptians.

Illustrations of Esneh and Edfu.

1. Is a drawing by Mr. R. Phenè Spiers, of the capitals at Esneh. 46. Is a photograph of the same.

32. Is a general view of the hall.

44. Is a bird's-eye view of Edfu Temple, and 40 is a general view from without the pylons, and 38 is a nearer view of the pylons. 39. Is a view of the entrance-court and front of the temple, showing the dwarf walls between the columns, behind which are the small chambers already described. 2. Shows the top of one of the staircases to the roof, with the procession of priests portrayed on the walls. 42. Is a bas-relief showing the Pharaoh cutting the first sod for the foundation of the temple.

Forty miles above Edfu the steamer was moored up to enable us to see the beautiful temple of Kôm Ombo. At this time of the year this temple stands out conspicuously above the river on a plateau, and is seen at a great distance in each direction from its being at a bend in the stream; but in the time of the inundation the waters approach very near the temple floor and have considerably undermined the foundations; the Government have spent a great deal of time and money in restoring and building a solid embankment on the side of the river to prevent further encroachment and destruction. The great portal looks very majestic in the evening light flanked by the remains of huge pylons on each side, and the temple building must have been a most imposing pile when complete with grand flights of stairs down to the river. The peculiarity of the plan is that it is a double temple, with twin entrances side by side, and double suites of rooms throughout; the left half on entry is sacred to Horus, god of the day, and the right half to Sebek, the crocodile-headed god (a god of the night). Like the other temples we have been examining, there has been a restoration under the Ptolemies of an ancient building which stood on the site; many parts of the temple are unfinished, and it is interesting to note on the ceiling and architraves of the Hypostyle Pronaos (the building now forming the central porch or entrance) the red lines dividing the surface into small squares which were used by the Egyptian sculptors for drawing out their figures and hieroglyphics, and by means of which the time-honoured proportions for the human body were retained. Some of the tablets in the British Museum, dating back to the twelfth dynasty, may be found with these squares perceptible on the surface, and it is remarkable that the proportions in these later ones are slightly changed, and agree with what are given by a Greek writer as the proportions for the figure.

A short distance further south brought us to the first cataract, the southern end of Egypt proper, near which are extensive granite quarries.

It is said that all the obelisks, granite blocks and pillars found in Egypt came from these quarries, and the labour of working them and taking them down to the river and to their various destinations must have been almost incredible. In one place there is a huge obelisk, partly worked, lying on the ground half buried. This mass measures 11 feet on the side, and quite 90 feet can now be seen above the ground. It has marks across it as if the original or some subsequent workers, having given up the design of carrying away so huge a mass, had commenced to cut it into smaller blocks—a design they did not, however, carry out, so that to this day it remains to excite the wonder of travellers.

Above the cataract and quarries is the picturesque island of Philæ, crowned with temples, walls and colonnades, set off with palm trees, and surrounded with rocky islands and granite blocks of fantastic shapes, red and purple above, and shiny black, looking almost metallic, where reached by the waters of the inundation.

The banks of the river are picturesque, like the islands, and studded with noble palm trees. There is a large village on the left, and numerous picturesque Nile boating craft, with their large triangular white sails, impart life to the scene. Here we engaged a boat and were rowed across to the south end of the island, whence long colonnades lead up to the celebrated temple of Isis. This goddess was worshipped here from early times down to 540 A.D, after which there seems to have been a Christian village on the island, with a church and forum, and during this period the inscriptions and reliefs of the temple were plastered over to exorcise the evil spirits who were supposed to dwell there. The island is about a quarter of a mile long and 150 yards broad; the temple of Isis, with its accessories, occupies about half the length of the island. The temple was built at various times and owes its charm not only to the gracefulness of its architecture, but also to the beauty of its situation, from which it has been called "The Pearl of Egypt." We first enter a detached porch with six columns on each side, dating from Nectanebus II. (fourth century B.C); in front of this porch were two obelisks, one of which has been removed to England. From this porch we pass into the large colonnaded court in front of the temple; this is about 100 yards long, and is irregular in shape, but very picturesque; there were thirty-two columns on the west side running along by the river—the other side was never completed. The capitals are varied and very graceful, and in many cases vivid colouring remains. This court leads to the pylons, or main entrance to the temple proper, adorned with reliefs en creux—that is, sunk below the general surface—representing on the upper part Pharaoh sacrificing to Osiris and Isis, and to Isis and Horus, with battle scenes below. The pylons are 150 feet wide and 60 feet high, and command a beautiful bird's-eye view of the island. Formerly there were two lions and two obelisks before the central entrance, through which we enter into the inner peristyle of the temple proper. On the west of this was a temple called the Birth House, on the east is a colonnade with rooms behind in two storeys, and to the north is a second pylon before the inner rooms of the temple. The Birth House on the left or west is a complete small temple in itself, with a cella, in front of which are two vestibules and a colonnade around like a Greek temple. It is adorned with reliefs, describing the birth of Horus or the new born day; it also illustrates the education of the young Pharaoh or heir to the throne, who is supposed to be the representative of Horus on earth, and shows his birth, education and instruction in the arts, such as music, &c. This building dates from the Greek Ptolemies.

The rooms on the right or east side of the court seem to have comprised the laboratory and library. On one is written, "This is the library-room of the gracious Safekh"—the goddess of history—"for preserving the writings of the life-bestowing Isis."

We now enter through the second pylon into the inner part of the temple, the first apartment of which is an elegant hypostyle consisting of an uncovered forecourt and a covered hall beyond, with four columns on each side. This is one of the most beautiful halls in Egypt, not only on account of its well-balanced proportions and admirable preservation, but especially on account of the beautiful and delicate colouring, which, being very little perished, conveys a better idea than almost any other example of what the gorgeous effect of these buildings must have been when their colours were fresh and unfaded. The columns are ornamented with palm branches and other foliage, which are coloured in brilliant blues, greens and reds, not according to nature, but apparently according to an ancient canon of contrast of colours, and the whole effect is harmonious and resplendent in the extreme. The ceiling has the usual astronomical representations, and the interior rooms consist of the sanctuary, treasury and minor apartments, as in the other examples described. On the left or west side is a staircase which ascends to the celebrated Osiris room on the roof of the temple, where are interesting reliefs illustrating the Egyptian doctrine of immortality. Osiris is first shown as a mummy on a bier, on which Hapi—the Nile—lets milk trickle from her breast, and Horus pours the water of life; afterwards there is represented the waking up of Osiris into new life and his investiture with divinity as a ruler in the nether world.

A small building on the west of the temple of Isis contains on each side a curious representation of the source of the Nile. Below is a cave guarded by a serpent, in which sits the symbol of the Nile, a man with lotus flowers on his head with a woman's breast, pouring out water from two vases; above this is a group of rocks like the islands round Philæ, while on the top a vulture—Muth—and a hawk—Horus—keep watch.

On the east side of the island is an elegant little temple or pavilion, which goes by the name of "Pharaoh's bed," with five columns on each side and four at each end, and half enclosed; it is a favourite subject with painters on account of its elegant form and suitability to the landscape, though the inscriptions within it are of no importance.

I have to thank Mr. Spiers for lending me the beautiful coloured drawing on the walls of the coloured hall above referred to, and also for the loan of many plans and photos, and also Mr. Francis Hooper, who has lent me some slides. I will now conclude by putting on the screen some photos from Philæ and neighbourhood.

33. Is a general view of the island and its temples.

35. One of the picturesque Nile boats at anchor in the neighbourhood.

36 and 37. Show the entrance colonnade.

37. Shows the small temple called Pharaoh's bed.

The paper was illustrated mainly by lantern views.

A vote of thanks to Mr. Payne was proposed by Mr. R. Phené Spiers, and seconded by Mr. J. E. Newberry. The President, Dr. Weymouth and Messrs. J. Marshall, P. Newberry and A. T. Bolton also joined in the discussion.

At the conclusion of the discussion votes of thanks were passed to the retiring President after two years of office, Messrs. G. B. Carvill and R. S. Balfour, hon. secretaries, and the various other officers of the Association.

THE DUMBUCK DISCOVERIES.

AT the last meeting of the Society of Antiquaries of Scotland a paper was read by Mr. John Bruce, F.S.A.Scot., on the excavation of a pile structure on the north bank of the Clyde at Dumbuck, about a mile to the east of Dumbarton Rock. When first discovered by Mr. Donelly, artist, a few of the tops of the piles were just visible above the mud. These piles were found to be of oak, twenty-seven in number, arranged in a circle of 50 feet diameter, and spaced from 6 feet to 9 feet apart. Within the circle was a flooring of horizontal timbers of fir, alder and birch, laid in three layers crossing each other at right angles. In the centre was a circular cavity about 6 feet in diameter filled with stones, and showing remains of walling round it. On the flooring round the central space were five circular paved spaces, the stones of which were packed with clay. About twenty yards to the north-west a canoe, hollowed out of an oak tree, was found in a kind of dock, the walls of which were partly of stone supported by piling. A causeway of timber and stone led from the pile structure to the place where the canoe lay. It is the largest canoe yet found on the Clyde, being 35½ feet in length, 4 feet beam at the stern and 2 feet in depth. To the west of the pile structure a pavement extends for 20 yards till it intersects a kind of breakwater which extended round the structure outside the piles. In the space between the piles and the breakwater there was a large accumulation of refuse, ashes, charcoal and bones of animals used for food, viz. the ox, sheep or goat, swine, red deer, roe deer and a few large birds. Many of the bones have been fashioned into implements, and most of the long bones are broken into splinters, and some of the deer horns cut and sawn into handles for implements. The worked objects found in the course of the excavations are chiefly of bone and stone. They are of two classes—first, such as are familiarly known to science from their frequent occurrence in other sites of early occupation, and, second, a more numerous class of objects which are not known to have occurred elsewhere, many of which, however, bear a close resemblance in character to some of the objects found in the neighbouring hill fort of Dunbuie, which had been explored by the Helensburgh Naturalist and Antiquarian Society in 1896, under the superintendence of the late Mr. Adam Miller, one of its secretaries, and Mr. Donelly. After describing the implements and other objects found (which were exhibited to the meeting), Mr. Bruce remarked that the discovery of this pile structure had raised many questions, and there were divided opinions as to its age and character. Probably its true position could not be determined at present, but time would show it. In the discussion that followed, Dr. Joseph Anderson remarked that though this pile structure presented some unusual features of construction and contents, both of these agreed so far with the generality of Scottish crannogs. But a considerable number of the objects in stone and shale, with incised carvings and pit-marks, bore no resemblance to anything heretofore found in pile structures, or, indeed, anywhere else, except in the fort of Dunbuie not far distant. Although some resemblances to types of things used by modern savages had been appealed to, the general characteristics of these carved objects gave no warrant for their attribution to any prehistoric period, or for their assignment to any particular section of the archæological series. Conflicting opinions had been expressed as to their genuineness, but he did not consider it possible or necessary in the meantime that there should be a final pronouncement in the absence of decisive evidence, which time might supply. Dr. Robert Munro, in a communication to the secretary, referred to the opinion he had expressed elsewhere that these strange-looking objects from Dunbuie and Dumbuck do not belong to any known phase of Scottish civilisation. Mr. Andrew Lang, also, in a communication to the secretary, while offering no opinion on the stage of culture and relative antiquity to which the structure and remains at Dumbuck might be assigned, compared the small portable stones with decorative markings found there with the cup and ring markings found on rock surfaces all over the world, and with the markings found on a kind of portable ritual objects in stone among the tribes of Central Australia. He inferred that probably the same kind of marks had an analogous significance in this country at one time, and as the Central Australian ritual objects were a recent discovery no one would be likely to counterfeit objects of which he had no knowledge. Dr. Christison remarked that a careful examination of the finds at Dumbuck and Dunbuie seemed to prove that although they have a certain general affinity for each other they were divisible into groups, and that the occurrence in two neighbouring places of several groups of objects the like of which had never been met with anywhere before and to which he could not assign any purpose inclined him not to look with any greater favour upon the whole collection than he had felt for the Dunbuie finds alone. Sir Arthur Mitchell, in moving a vote of thanks to Mr. Bruce for his carefully drawn up statement of the results of the Dumbuck exploration, in which there was no pleading for the adoption of any opinions, drew attention to the position of the Society as a whole in regard to finds about the authenticity or genuineness of which doubts were entertained. He said that it was no function of the Society as a society to give deliverances in such cases, but that the Fellows of the Society as individuals might, of course, hold and express opinions which need not agree. He also pointed out that the evidence of authenticity in the case of the Dumbuck objects was the evidence which is usually accepted as sufficient in regard to other finds. All the objects from Dumbuck, he said, were not doubted, but only some of them, yet the evidence of the authenticity of the doubted and undoubted objects was exactly the same. The newness of objects presenting themselves with claims to antiquity, he said, would not justify their being discarded as unworthy of consideration, and that this would be nearly as true if, in addition to newness, they had characters which raised doubts as to their being genuine, as happened in regard to some of the Dumbuck objects. The only conclusion which at present is necessary or proper, in his opinion, was that a careful record of the find shall be kept and the objects preserved in the hope that additional knowledge may eventually enable us to go further. In conclusion, Sir Arthur drew attention to some peculiarities of the structure tending to differentiate it from the ordinary crannog, and in connection with this to the fact that Dumbuck was at one time a ford.

MR. RUSKIN'S WILL.

ON October 23, 1883, the late Mr. John Ruskin made a will in which, after appointing as executors the late William, Lord Mount Temple, Mr. John Simon and Mr. Alexander Wedderburn, he said:—"I leave all my estate of Brantwood aforesaid and all other real estate of which I may die possessed to Joseph Arthur Palliser Severn, of Herne Hill, in the county of Surrey, and Joanna Ruskin Severn, his wife, and to the survivor of them and their heirs for ever for their very own, earnestly praying them never to sell the estate of Brantwood or any part thereof, nor to let upon building lease any part thereof, but to maintain the said estate and the buildings thereon in decent order and in good repair in like manner as I have done, and praying them further to accord during thirty consecutive days in every year such permission to strangers to see the house and pictures as I have done in my lifetime."

Mr. Ruskin left all his unpublished manuscripts, diaries, memoranda and other private papers of which he might die possessed and not otherwise disposed of by his will to Mrs. Joanna Ruskin Severn and Mr. Charles Eliot Norton, of Cambridge, Massachusetts, to deal with, publish, or destroy all or any of them in such way and to such extent and at such times as they think fit. He left to the trustees from time to time of the Bodleian Library, at Oxford, upon trust to place and keep the same in the said library by themselves together and apart from the other collections, marking, calling and showing the same as the "Ruskin Gift"—(*a*) The contents of the bookcase and three mineralogical cabinets at the end opposite the fireplace of his study and the cases themselves; (*b*) the portrait of the Doge Andrea Gritti by Titian; (*c*) the portrait of his father as a young man, which hangs over the mantelpiece in the dining-room at Brantwood, and (*d*) the drawings by Turner and himself named in a list which he intended to make thereafter and place in the above-named bookcase marked as "The Drawings for the Bodleian bequest."

Mr. Ruskin left all the copyrights and salerights of all the books, writings, plates, engravings and wood blocks printed, written, engraved, cut or made or published by or for him during his life, together with all the stock-in-trade, plates, engravings, books, copies of books, plates, engravings and blocks, and all other things connected with his works and their publication in the hands of his publisher or publishers at his death, and also his unpublished manuscripts and proofs of and for works already in course of publication, to Mrs. Severn and Mr. Alexander Wedderburn, but subject to the condition that Mr. George Allen should be retained as publisher, that out of the profits of publication 100*l.* a year should be paid to Mr. Wedderburn, and then not exceeding 1,000*l.* a year to Mr. and Mrs. Severn for the maintenance of Brantwood, and that any balance of profit should be invested. He left the residue of his property to Mr. and Mrs. Severn.

By a codicil of June 4, 1884, Mr. Ruskin revoked the bequest to the trustees of the Bodleian Library, and he left the things bequeathed by his will to them in trust to go as part of his residuary estate, with the desire that they should ever remain at Brantwood as in his lifetime; and by a codicil of September 21, 1885, confirming the settlement of Brantwood in favour of Mr. and Mrs. Severn, he substituted them and Mr. Charles Mylne Barber, solicitor, as executors and executrix of his will. He bequeathed a life annuity of 30*l.* to his servant Baxter, desiring that he should be retained at wages of 72*l.* a year, including the annuity of 30*l.*, and that he and his family should be allowed to live in the lodge. By a codicil of March 25, 1897, Mr. Ruskin modified the condition as to the employment of Mr. Allen as publisher.

The gross value of Mr. Ruskin's estate has been sworn to be 10,660*l.* 1*s.* 2*d.*, and no more, and the net value 10,311*l.* 7*s.* 6*d.* The value of the estate of his father, Mr. John James Ruskin, of the firm of Ruskin, Telford & Domecq, importers of wine, who died on March 2, 1864, aged seventy-eight years, was sworn under 200,000*l.*, almost the whole of which his son inherited.

GENERAL.

The Ancient Monuments Protection Bill was read a second time in the House of Lords on Tuesday. It proposes that local authorities should be empowered to take over the charge of national monuments, and to receive voluntary contributions towards the cost of maintaining and preserving them.

Mr. E. F. Strange will read a paper before the Applied Art Section of the Society of Arts on Tuesday upon "The Practice of Lettering."

A General Assembly of the Royal Society of British Artists was held on Monday night, when the following were elected members:—Mr. F. Hobden, Mr. V. R. Cole, Mr. W. W. Manning, Mr. W. B. Thompson, Mr. A. Maclean, Mr. W. Dewhurst, Mr. F. P. Wild and Mr. J. E. Southall.

The Authorities of the British Museum have decided to adopt a system of hydraulic pressure upon all the fire mains of the institution as an additional precaution against fire. By the adoption of this system a pressure of water of enormous force will be obtained by the mere turning of a couple of wheels, and the necessity for the fire engines which are at present on the roof of the museum will be obviated. This system of hydraulic pressure is already in use at Somerset House and the National Gallery.

Mr. E. H. Blake will read a paper on "Extras and Omissions in Building Contracts" at the meeting of the Surveyors' Institution on Monday next. The annual general meeting will be held on the 28th inst.

The Foundation-Stone of the Wolverhampton Free Library will be laid by the Duke and Duchess of York.

A Concrete Church, from plans by Mr. H. H. Brewster, has been erected in Brooklyn, New York, the walls being from 16 inches to 24 inches thick.

M. René Dubos, a pupil of the Ecole des Beaux-Arts, has gained the Deschaumes prize founded for the encouragement of young architects.

The Tenth International Congress of Hygiene and Demography will be held in Paris this year from August 10 to August 17, under the presidency of Dr. Brouardel, Dean of the Faculty of Medicine of Paris.

The Manchester Corporation have purchased Mr. H. J. Draper's *Water-Baby*, which is now hung at the New Gallery.

Lady Tate has purchased Millais's *Boyhood of Raleigh* at the sale of the Reiss collection, and intends to present it to the Tate Gallery. The price paid is 5,200 guineas.

A Bust of Lord Byron by Mr. Tayleurson has been fixed at his birthplace, 24 Holles Street.

The Conversazione of the students of the Royal College of Art, South Kensington, will be held in the museum on Wednesday, June 27.

A Special Service has been held to celebrate the reopening of Hallow Church, near Worcester, which has recently been completed. The church was erected in 1879, but the spire was then left unfinished. A spire has now been built, from the original designs of Mr. W. J. Hopkins, the architect of the church. It is a fine piece of work carried out under the direction of the diocesan architect, Mr. Lewis J. Sheppard, by Messrs. J. S. Wood & Son, of Worcester, and measures from base to capstone 150 feet. A peal of bells has also been provided.

The Important Fresco in St. Columba's Church, Southwick, Sunderland, executed by Mr. J. Eadie Reid, is now approaching completion. The fresco already finished shows the conversion of England to the Christian faith by the Northern and Southern saints. The two figures which stand out most prominently in this are St. Columba of Iona and St. Gregory the Great of Rome.

A Marble Bust of Thomas Carlyle has just been placed in the Carlyle House at Chelsea. It is the gift of the late Dr. Gunning, of Addison Crescent, Kensington, and formerly of Brazil, and is the work of Mr. D. W. Stevenson, R.S.A. Dr. Gunning commissioned Mr. Stevenson some time back to execute the bust, which is pronounced an excellent likeness by relatives and friends of the philosopher.

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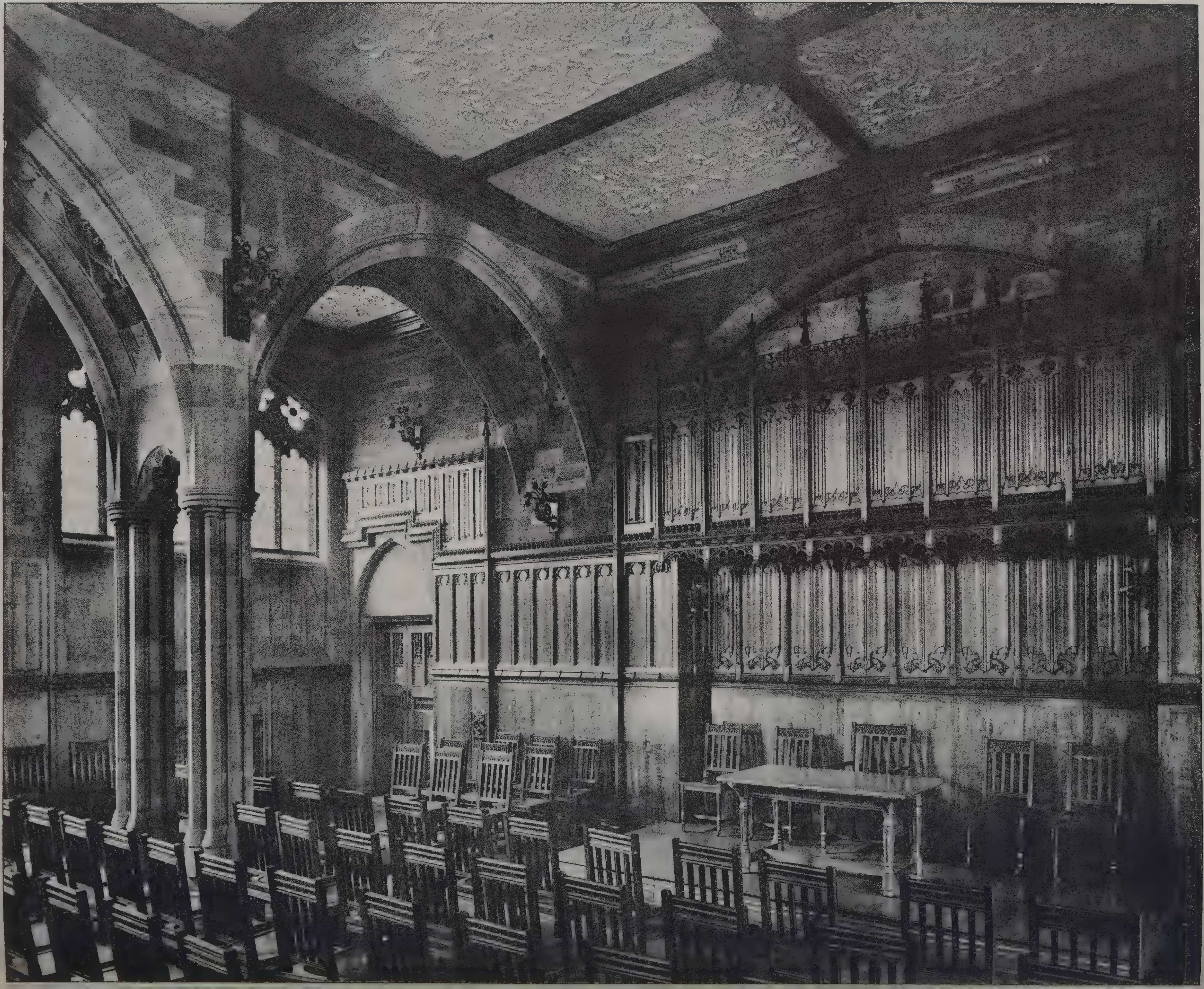
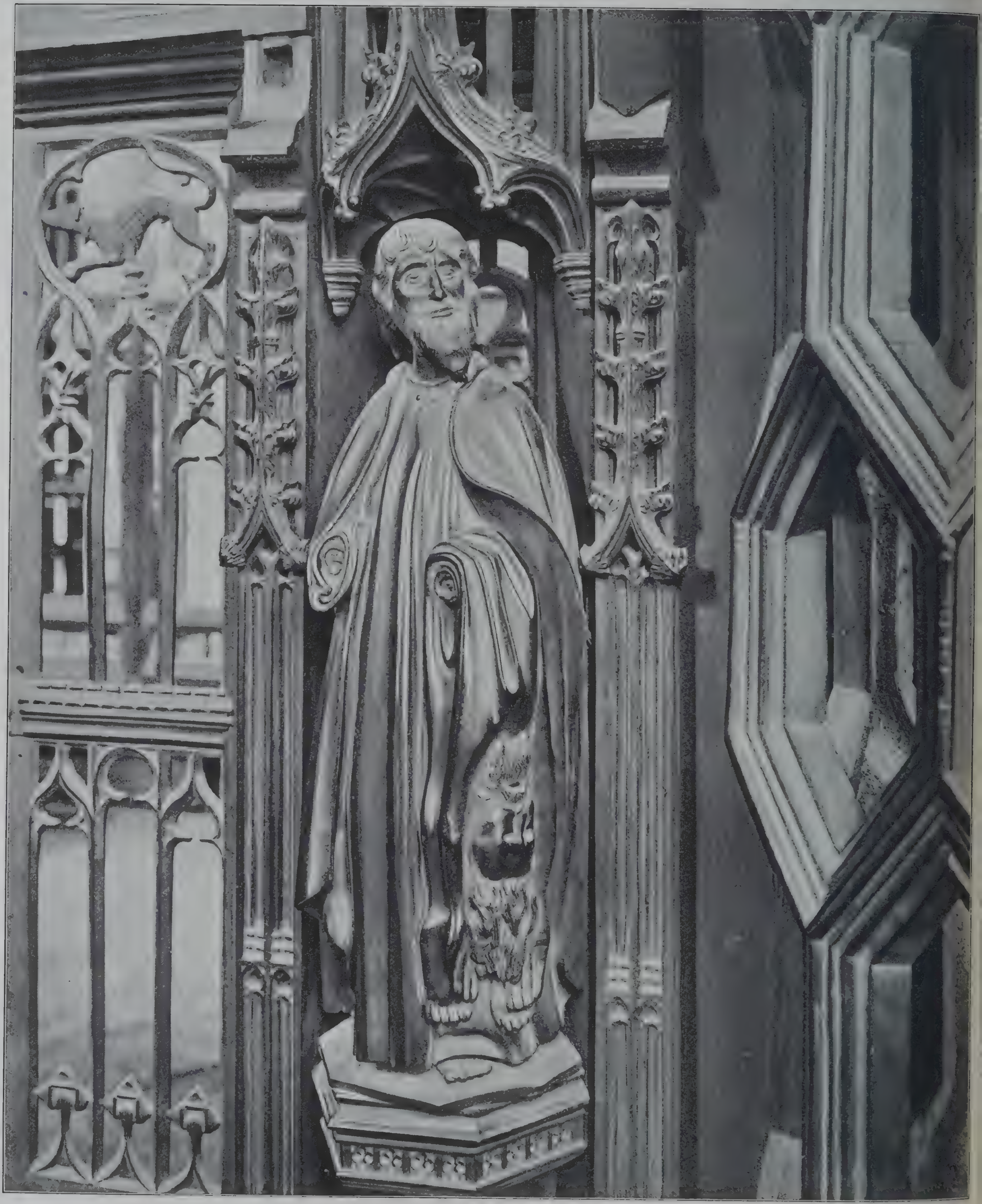
The Architect, May 18th 1900.





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DETAILS, HENRY VII. TOMB: ST. BARTHOLOMEW.

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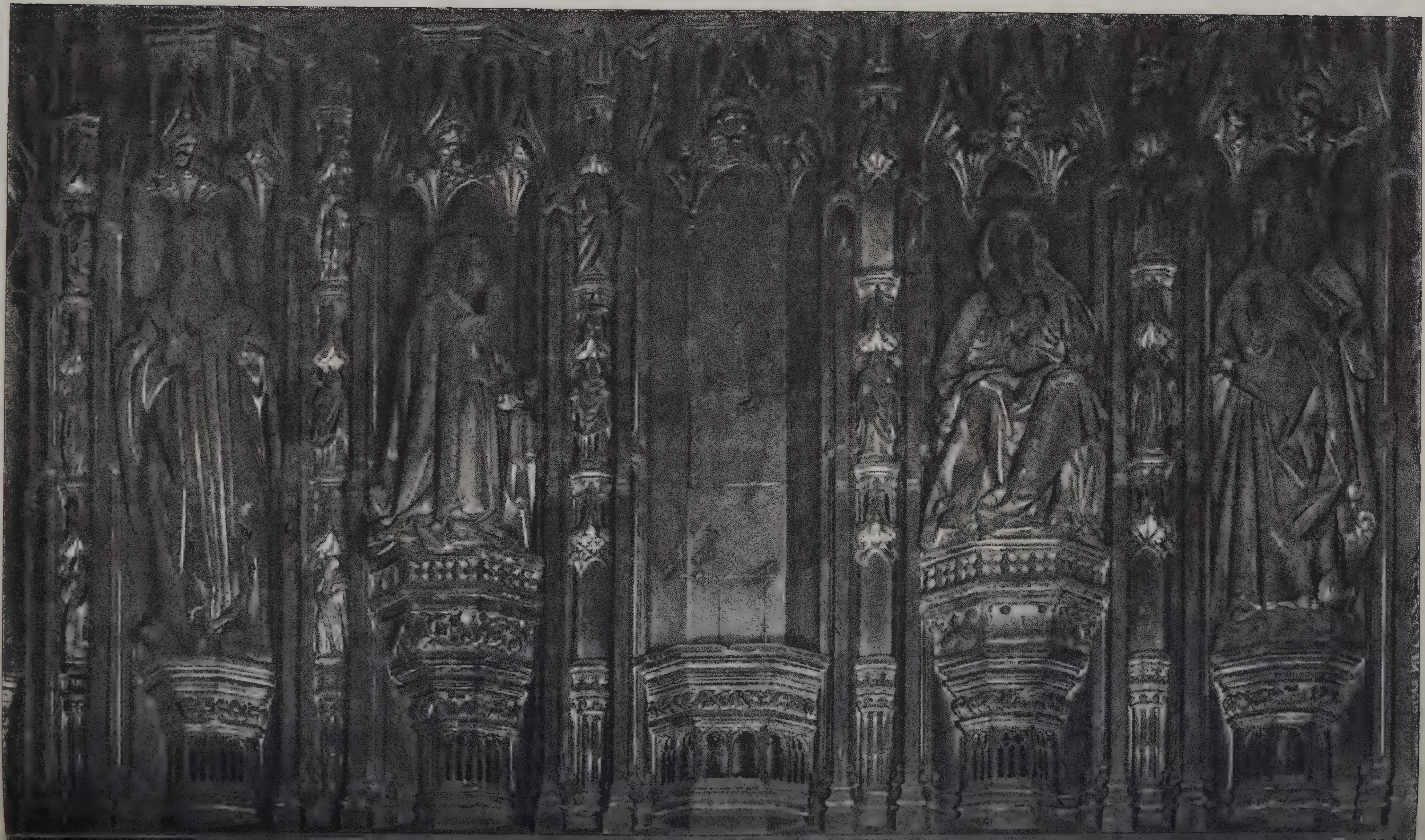

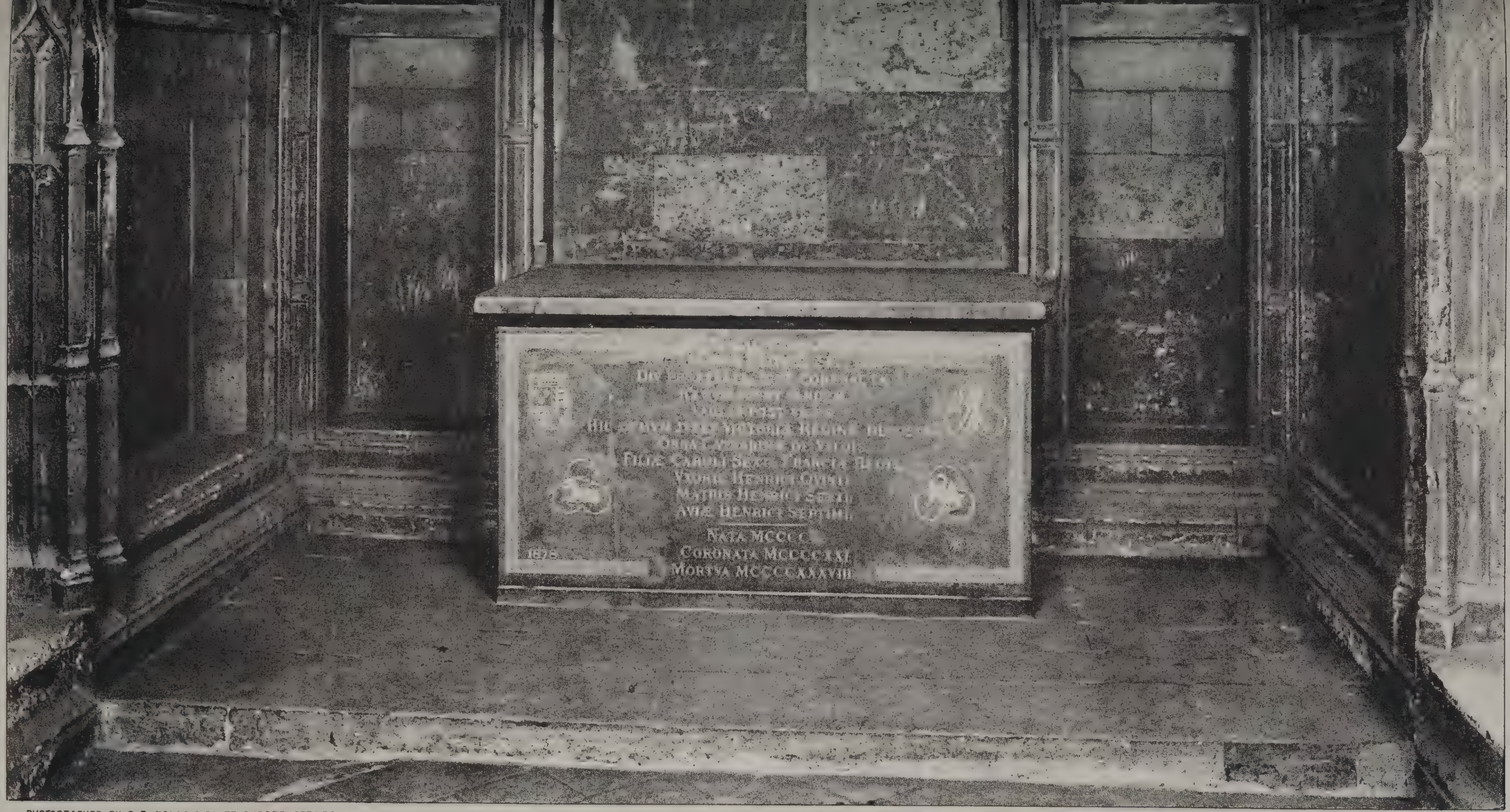

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HENRY V. CHANTRY.

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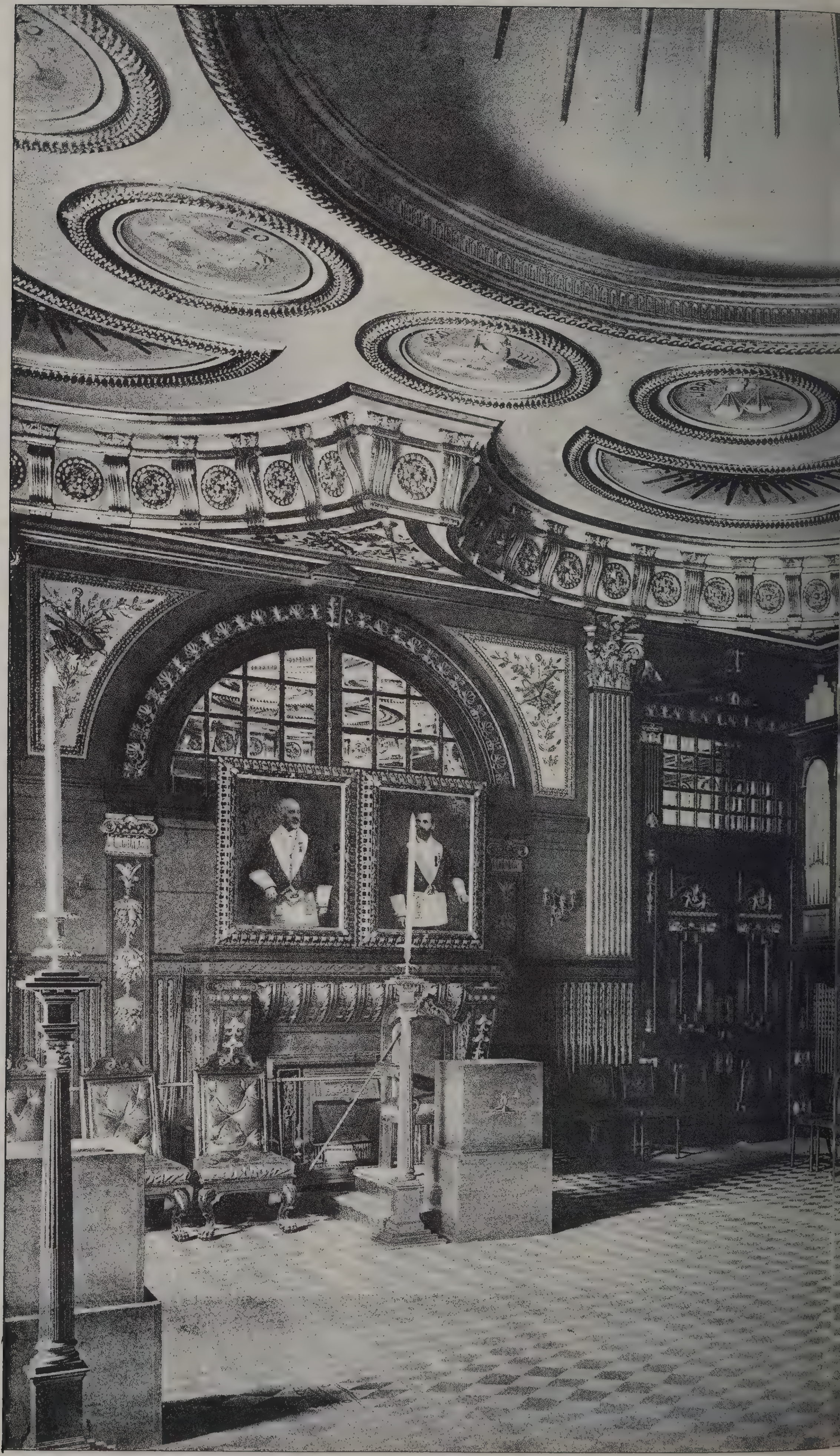

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MASONIC TEMPL

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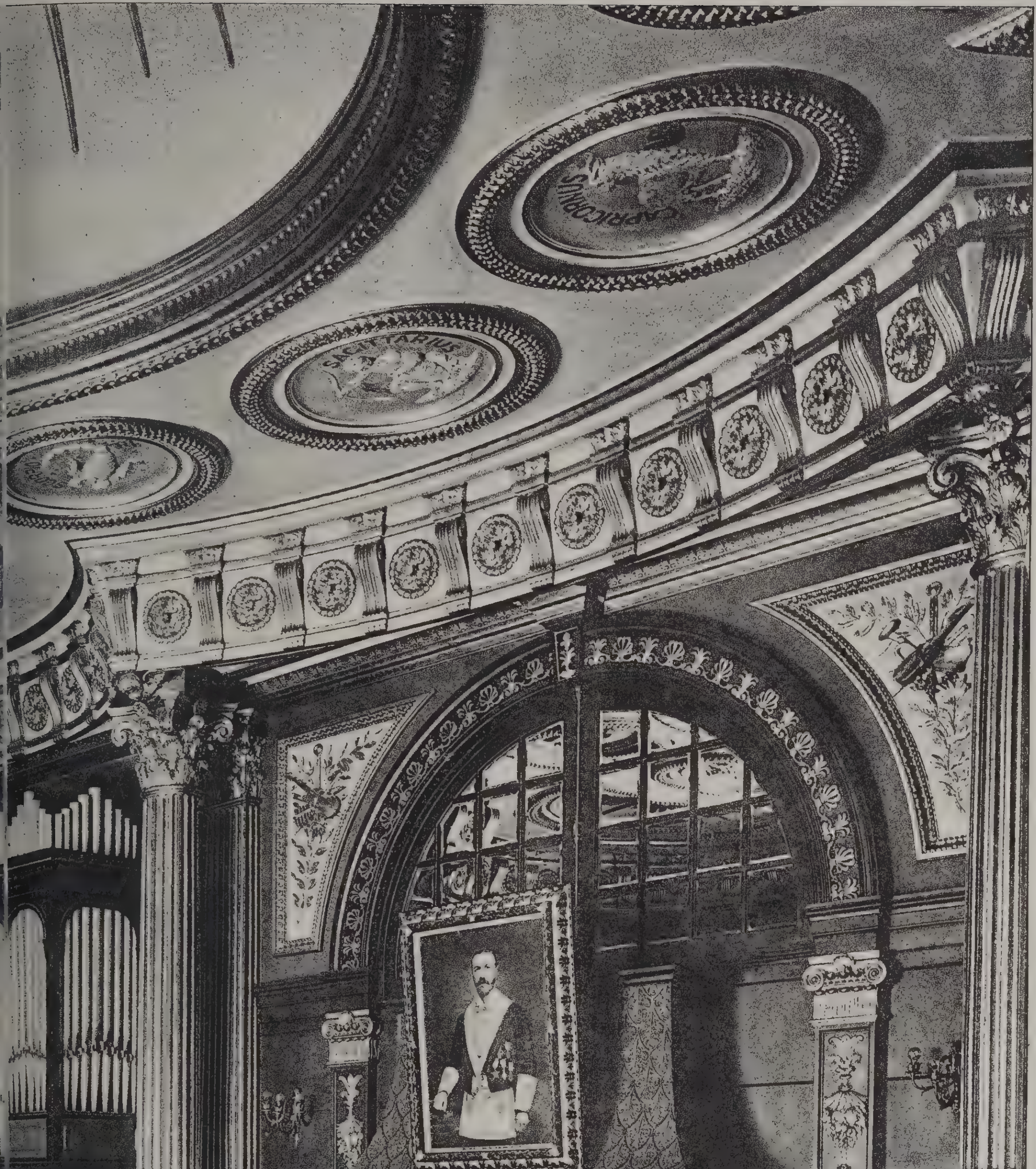

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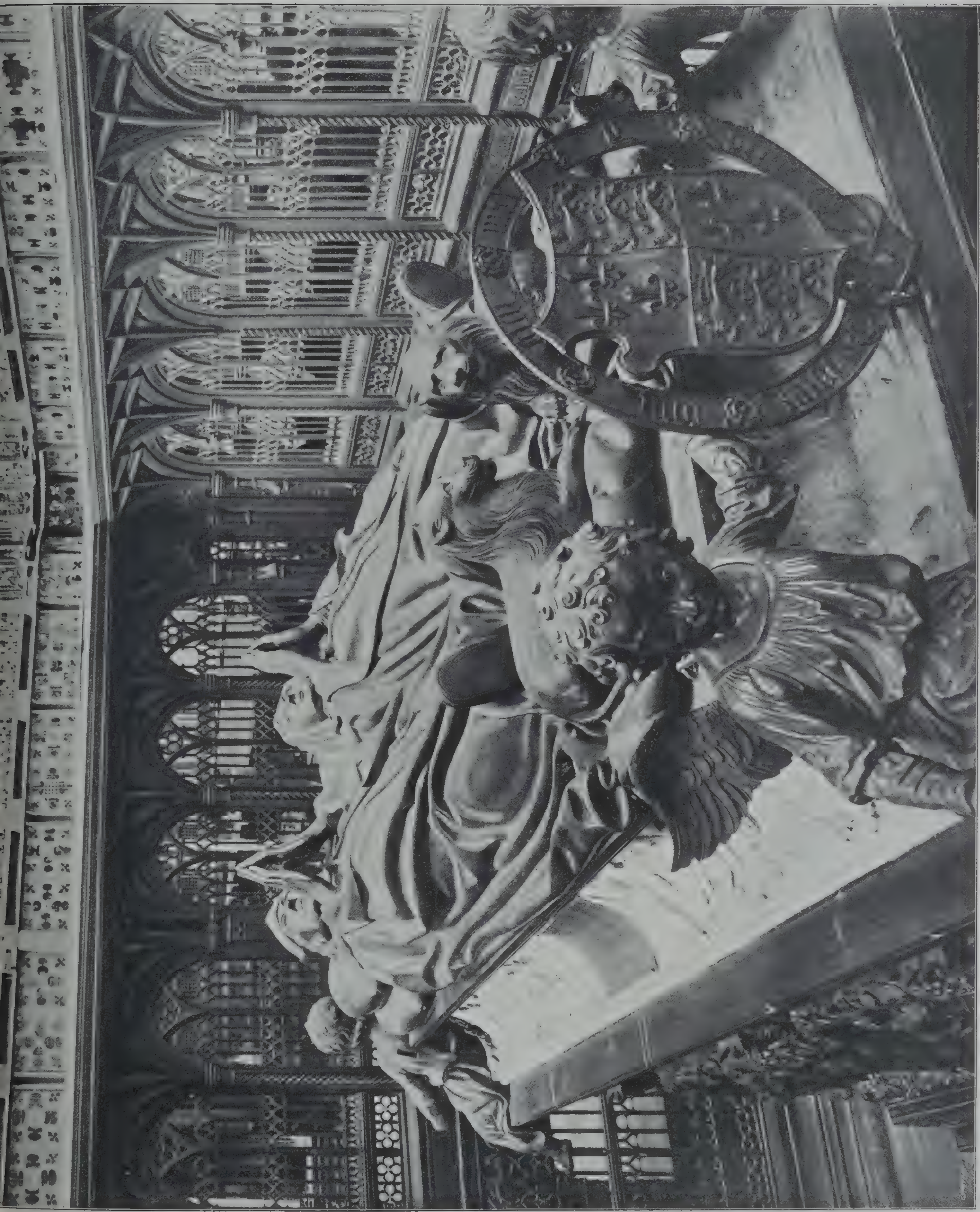

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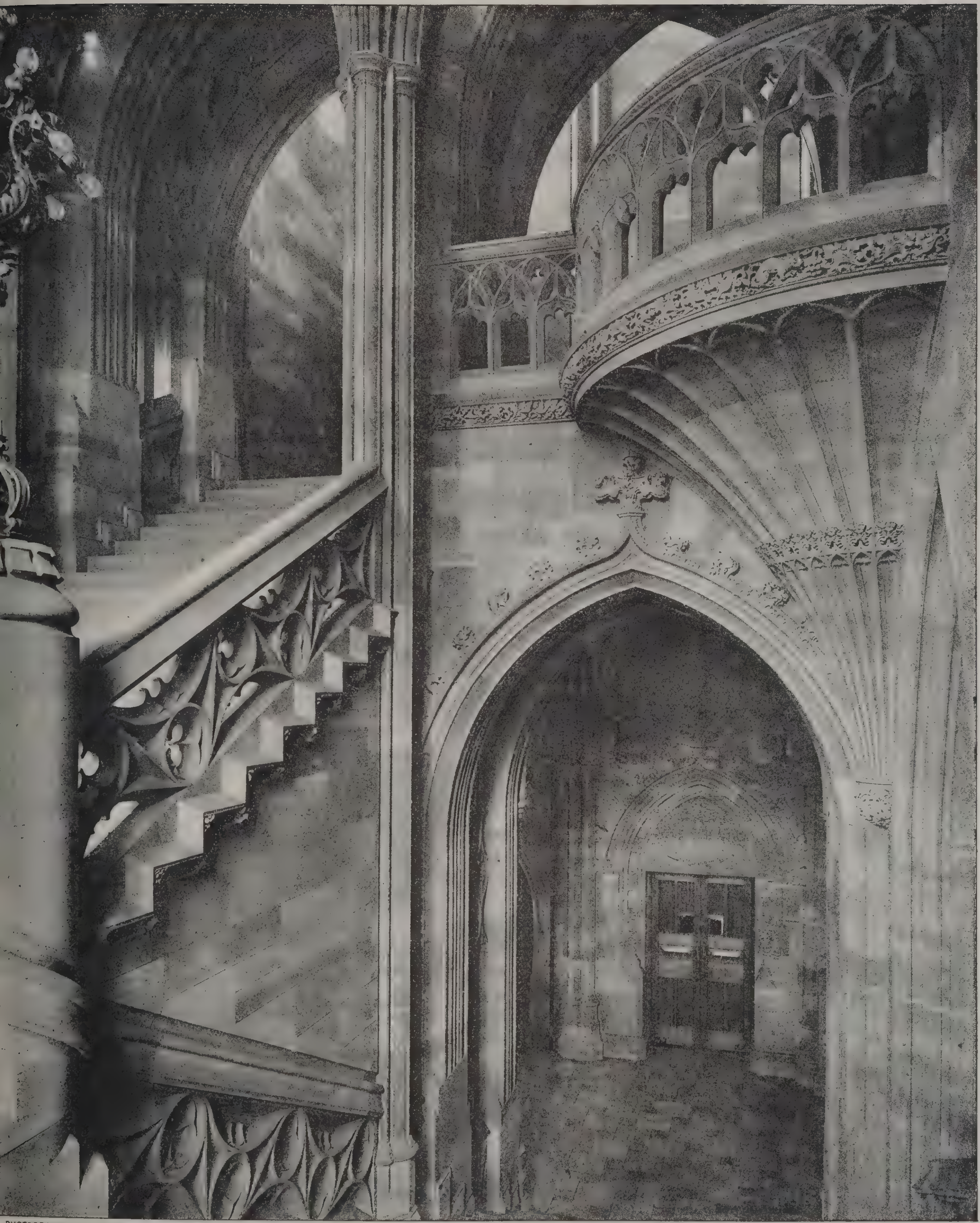
Westminster Abbey, No. 57.

Tomb of Henry VII. and his Queen, Elizabeth



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RYLANDS' LIBRARY, MANCHESTER: THE STAIRCASE.

BASIL CHAMPNEYS, Architect.

The Architect.

THE WEEK.

It is a pity the committee of the House of Commons could not see their way to the approval of the Manchester and Liverpool Electric Express Bill. The two cities have so many commercial interests in common they cannot be too closely connected. There are, no doubt, railways between Liverpool and Manchester, but it is said they only carry a million passengers per annum, and derive a revenue from the traffic of no more than 100,000*l*. If that were true it is calculated the lines carried only sixteen passengers per train. When it is known that on the Liverpool Overhead Railway there are nine millions of passengers a year, and that the Glasgow Electric Tramways are used by 20,000,000 people a year, it is plain that the communication which at present exists between Manchester and Liverpool is not of much public advantage. By the proposed line a speed of 110 miles an hour is anticipated, and if the system were a success it would exert an influence on railways throughout the country. The reason given by the committee for not accepting the preamble of the Bill as proved was, in the first place, the uncertainty about the effectiveness of the brake-power when trains would run at a high speed. Then there were local considerations, for intermediate towns would derive few advantages from the new line as it was proposed. The principal aim was to unite Manchester with Liverpool, and leave the intermediate districts to the ordinary railways. The people of Salford objected to a viaduct and wished to substitute a tunnel, which would add a quarter of a million to the cost of the line. The committee considered there were grounds for the opposition. It was also said that in any scheme for giving access to the heart of a great city underground approaches should be adopted wherever practicable. The committee's decision will no doubt increase the estimated expense of a new scheme should one be proposed next year. But it does not condemn the principle of the mono-rail system or assert that a higher speed for passenger traffic is not demanded.

We lately referred to the proposed Widnes and Runcorn Bridge, which it is proposed to construct across the Mersey and the Manchester Ship Canal, in order to allow of direct communication between the two towns and to supersede the present roundabout route. At first there was opposition to the scheme, but it was withdrawn, and the Bill appeared before the parliamentary committee as an unopposed measure. It might have passed through the House of Lords, at least, but for an unexpected obstacle. The Treasury demanded the insertion of a clause which would confer the right on all Government officials of passing across the bridge without the payment of toll. The reason given was that the ferry-boats at the same points can be used gratuitously by them. The claim is novel and the promoters of the Bill have declined to accept it. The case of the ferry does not apply, for it is rarely patronised, and free passage by officials is not considered to be a right or privilege. It will be necessary to enter into negotiations with the Treasury on so trivial a subject, and meanwhile the passage of the Bill is suspended.

The only building in Ireland which was designed by Sir Christopher Wren is, we believe, the Royal Hospital in Kilmainham, a suburb of Dublin which not only shelters pensioners, but is the official residence of the Commander-in-Chief in Ireland. The first stone was laid in 1680 by the Duke of Ormond, and this large building was completed in less than three years for the sum of 23,559*l*. The hall is wainscotted with oak, and is adorned with arms and portraits. At the east end of the hall is the chapel, which measures 80 feet by 40 feet. The ceiling is coved, and is adorned with the most beautiful stucco-work to be found in Ireland. It is supposed the ceiling was executed by an Italian artist from the designs of Wren, or rather of Grinling Gibbons. It has been discovered that the ceiling is in a dangerous condition, and for a time at least the chapel cannot be used. The authorities will not, we hope, be dilatory in preserving a work of art which is unrivalled in western Europe. Although the present hospital only dates from 1680, the site was occupied by buildings for soldiers from the twelfth century. In 1174, that is, two years after the English invasion, a Priory was founded there for the Knights Templars by Strongbow, the conqueror of Ireland. When the order was condemned and the members were dispersed, imprisoned, or executed, the Priory was handed over to the Knights of St. John of Jerusalem. The new owners used it for the accommodation of guests and strangers, while the Templars admitted the infirm and sick. It was occupied subsequently as the residence of the Lord Deputy of Ireland, but it was found to be too far from the seat of Government, and Dublin Castle was the Viceregal refuge. The latter was also uncomfortable, for Earl Clarendon writing in 1686 says:—"It is the worst lodging a gentleman ever lay in, and it will cost more to keep it in repair than any other. Never comes a shower of rain but it breaks into the house, so that there is perpetual tiling and glazing."

The outlay on county lunatic asylums is alarming, for it is owing to an increase of brain diseases. In the Oxfordshire Asylum, at Littlemore, there were 552 patients on January 1. That means overcrowding, for the buildings were not intended for so many occupants. The committee of visitors have therefore consulted Mr. H. J. Tollitt, of Oxford, as architect, about the best means of enlarging the present buildings. He advises that the buildings are capable of being added to on the male side for 100 patients and on the female side for 100 patients, and that dormitories can be added to the present wards in convenient situations specially adapted for ten male and ten female paralytic patients, and that such a method of extension would be more economical than providing a separate building upon a new site. The enlargement would involve alterations to the chapel, laundry, kitchen, gas supply and outbuildings, and the committee consider that the opportunity would be advantageously taken of meeting the often-repeated objections of the Lunacy Commissioners by providing an isolation hospital, male attendants' recreation-room, an improved surgery and lowering the old windows of the day-rooms. The committee have approved of the plans prepared by Mr. Tollitt for carrying out the enlargement and improvements. The cost of building and furnishing is estimated at 35,629*l*. The report has received the approval of the Oxfordshire County Council.

The death is announced from Paris of Eugène Lambert, a painter who more than any artist of the century succeeded in making cats popular subjects. He also painted pictures of other varieties, but they never attained the popularity of those of the feline tribe. It is remarkable that a painter of his class should have been a pupil of Eugène Delacroix. The great master was never happier than when studying tigers and in representing their ferocity; but as Eugène Lambert was of a less stern and misanthropic disposition he was satisfied with domesticated carnivora. He was successful, but he would have sold more pictures if he had confined himself to poodles. Some French writers, however, have been fond of cats, as was Eugène Lambert. Theodore Gautier was one of them, and in his great novel, "Captain Fracasse," the good genius of the Sigognac family is the wonderful Beelzebub, who, as in a fairy tale, was able to enrich his master.

Some foreign Governments have acted wisely and courteously when they paid a compliment to France by employing Parisian architects to design their pavilions in the Rue des Nations of the International Exhibition. M. Lucien Magné has prepared the plans for the Greek building, M. Leblanc for the Russian, M. Beaudriz for the Servian, M. Saladin, Morocco, M. Masson-Détourbet for the Chinese, MM. Regnier & Petitgrand for the Japanese, M. Deurgnon for the Egyptian, M. Gaillard the Peruvian, M. Heubes the Transvaal, M. Eugène Chastel the Siamese. In other cases French architects were invited to give their aid to the native representatives of several States, and in that way the talents have been utilised of MM. Vaudremer, Fivaz, Robert, Neukomm, Saladin, Marcel, Morin-Goustiaux, Pesce, Tessier, Falconnet, Cousin.

SCULPTURE AT THE ROYAL ACADEMY.

ENGLISH sculptors would be justified if at the present time they were sanguine about their prospects. They have only to look back to the beginning of the nineteenth century to find a warrant for the conclusion that a time of war in England gives rise to abundant commissions. There were so many statues and groups then ordered, many people who professed they had the interests of the art at heart came to the conclusion that painting was to be superseded by sculpture. In the publications of that time earnest remonstrances will be found about the unfairness of the distribution of public patronage. As a consequence, the Dean and Chapter of St. Paul's became alarmed about the fate of the Cathedral. In order to prevent it from being transformed into a temple for the glorification of warriors they resolved on restrictions which were not without effect. Whether their action was advantageous for Westminster Abbey, where very big figures were welcomed, is a question we need not discuss. The opportunities for the erection of statues in churches are as yet not so numerous in the war in which the country is now engaged. But everyone who has witnessed the enthusiasm which was manifested on Friday and Saturday last must conclude that it would not take much force to insure the erection in public places of statues of officers who successfully took part in the South African campaign.

As if in anticipation of a desire by the public the works in the Royal Academy this year are more interesting than usual. Portrait statues are numerous. In the courtyard the visitor perceives in the place recently occupied by a memorial of Lord ROBERTS a large equestrian statue of *The Late Maharajah of Mysore*, by Mr. ONSLOW FORD. It is creditable to the artist to say that both horse and rider recall in spirit some of the well-known brass figures from Vizagapatam. The Prince is manifestly an Indian cavalier, and is not seated in the saddle like any of the Anglo-Indian chiefs of whom statues were seen in London, such as the *Hardinge* and *Outram*, by FOLEY. There is less military stiffness and more of the sportsman's ease in his attitude, and the effect will be heightened when the statue is set up in India. The sculptor has another important work, *The Late Professor Huxley*. In this there is not the same respect for local consideration which we find in the Maharajah. The naturalist wears an academic gown. One hand is firmly clenched, and it suggests the head of a college who was dealing with a rebellion of students, or rather a mutiny of recalcitrant professors. The attitude and expression are not suggestive of HUXLEY, the Government official, or of the Professor, or of the controversialist. There is no doubt about the statue being vigorous. The details have a simplicity and breadth becoming the employment of marble, and thus presenting a contrast with the trappings and filagree of the Indian work. But we do not know where it would be in place, and it certainly will convey to posterity an incorrect notion of the clever lecturer and writer who was one of the buttresses of the Darwinian theory. The small model of the statue of *Archbishop Plunket*, by Mr. THORNYCROFT, seems to us a more satisfactory representation of a man who had to take part in polemics. His Grace could not have held office in Dublin without figuring in theological Donnybrooks. But in the model all the bitterness of contest is ignored, and we have only the suggestion of an excellent dignitary who, while firm in his own conclusions, is not carried away by passion or angry esolve.

If English sculpture is now more esteemed than it was wenty years ago, it is in no small measure owing to the ove of the art which was exhibited by Lord LEIGHTON during his Presidentship. Mr. THOMAS BROCK, who co-operated with him in his statues, has had the melancholy privilege to execute the tomb of the artist. It is to be placed in St. Paul's Cathedral. It stands in fitting supremacy in the lecture-room. LEIGHTON is represented not as if in active life, painting, modelling or lecturing, but as lying at ease when his life's work was ended. His face was well adapted for a sculptor's purposes. Indeed, there is no painted portrait so characteristic of the man as the head which Mr. BROCK has modelled, and the repose of death seems to impart a new dignity to features which were generally suggestive of action. Figures of painting and sculpture symbolise the history of the man, and the whole work is admirably suited for erection in a building which already possesses a monument by ALFRED STEVENS. In his recumbent statue, *The Late Dean Vaughan*, Mr. GOSCOMBE JOHN has endeavoured to suggest the energy of the Dean by giving an excess of massiveness to the head. Dr. VAUGHAN had not the usual attributes of a vigorous frame, and were it not for his expression it would not be supposed he was capable of the onerous tasks which he imposed on himself. We may also mention the statue of *Admiral Robert Blake*, by Mr. POMEROY, *Alderman John Harrison*, by Mr. FEHR, and *Sir Sidney Waterlow*, by Mr. TAUPMAN.

Busts are numerous. Mr. ONSLOW FORD has been successful in the *Duke of Norfolk* and *Mr. Lewis Waller*, who appears in a Roman garb. Mr. GOSCOMBE JOHN has an excellent study of the late *Duke of Devonshire*, in which he has rendered the kindly expression which characterised that noble. Mr. BROCK'S *Pickering Pick, Esq.*, is a masterly bust, and another example is Mr. FRAMPTON'S *G. R. Cockerell, Esq.* But it would be often an advantage to art if sculptors were to display courage and inform intending subjects that nature had not endowed them with features which were adapted for reproduction in bronze or marble, and if they must have busts clay is the most suitable material. In such cases the most that is feasible is to take a suggestion from photography and give a result which will not be art.

Among the imaginative sculpture Mr. PEGRAM'S *Fortune* has attracted much interest. The aim of the sculptor has been to pose the figure in such a way as to obtain a great variety of contours, and he has entirely succeeded. As it somehow suggests restlessness or capriciousness it is not an inapt illustration. *The Myrtle's Altar*, a girl wielding a sword, by Mr. LUCCHESI, is finely modelled. *At the Gates of the Past*, by Miss E. M. MOORE, is, we suppose, intended for a monument. A nude figure of a girl rests against a combination of ornamental lines which appear to form a name. The contrast between the curves and the contours of the delicate figure is well rendered. But the question is, Would not a name in plain letters be more in keeping with the watcher? *Æneas Leaving Troy*, by Mr. MORTIMER BROWN, and *Æneas Fleeing from Troy*, by Mr. GILBERT BAYES, are two of the works which we submitted in the last competition of Academy students. They are both above the average of works of the class. Another academic work, called *And they were Afraid*, by Mr. A. G. WALKER, is the familiar group of ADAM and EVE. *The Broken Bow*, by Mr. H. HAMPTON, is a graceful figure of a huntress seated on a rock, and holding a fragment of a bow. Idea and pose are original, and it would not be difficult to convert the figure into a Diana. There is one architectural relief, *The Last Supper*, for Berkhampstead Church, by Mr. G. W. I. ENGLAND, in which the difficulties of such a subject are ably surmounted. Mr. W. REYNOLDS-STEPHENS'S *Guinevere and the Nestling* is in oxidised metal. The drapery abounds in ornamental detail. But the statuette is not archaic. This work, if brought out as an ordinary statuette, should hold its own against the majority of those imported from Paris, for the subject is familiar, and the treatment would give pleasure to people who might not be satisfied with nudities. Unfortunately, the London dealers in works of art will not speculate in English statuettes, and unless a sculptor accepts all the risks he cannot expect to see any of his works popularised. French bronzists undervalue the English market, and are too patriotic to take part in any enterprise that would be likely to make English work known. The skilful muscular figure, *A Spearman*, by Mr. POMEROY, if reduced would also form an attractive statuette.

One of the most remarkable works in the lecture-room is Mr. FRAMPTON'S *Lamia*. By having no more than a bust the difficulties of representation are overcome. According to ROBERT BURTON, those celestial devils were gods above and half gods or worse beneath. The Academy *Lamia* is so demure as to realise the expression "Butter would not melt in her mouth," and her face would serve for the Roman VALERIA, who was "chaste as the icicle that's curdied by the frost from purest snow and hangs on DIAN'S temple." By the aid of coloured materials the sculptor has come very near the embodiment of KEATS'S lines, and we see a phantasm that might have been a serpent before it underwent "the lithe Caducean charm," and that still retains some of the dazzling hues of its old condition. Another bust suggestive of imagination is Mr. Mervyn Lawrence's *Lonely of Heart*. *The Properties of Fate*, by Mr. Alfred Drury, is in bronze. The expression is sibyline and unbending; the hands hold a very large crystal which imparts novelty to the work.

Among the examples of another class are *The Terminal to Carry a Lamp*, which is worked in oak by Mr. Mark Rogers, and which is decorative in treatment; *The Alms-Dish*, by Miss Steele; *The Great Seal*, by Mr. De Saules, which is enough to prove the artist's skill as a medallist; the relief in beaten tin by Mr. Charles Beacon; and especially the baptismal font by Mr. Alfred Gilbert, which is a striking and original example of the artist's metal-work, but almost too beautiful to be placed in an ordinary church.

JOHN RUSKIN AS A WRITER.*

Is it genuine admiration, remorse for injustice, or desire of profit which causes Messrs. Blackwood to introduce a book on John Ruskin so early among their series "Modern English Writers"? Readers who remember such articles as "Mr. Dusky's Opinions of Art" and others of a like nature in the publishers' magazine, will consider there is inconsistency at least in displaying esteem for the author of "Modern Painters." *Blackwood's Magazine* in its early days succeeded because it appealed to the lowest prejudices of men in the North. It was found that such writing as a rascal like Lockhart was competent to produce, and which consisted of forgeries and libels, was not suited to the more civilised requirements of people in England and in the Colonies. Moreover, there was the stain of blood upon the magazine, for Lockhart, who was wanting in physical courage, obtained a bully to shoot an editor who was aggrieved by the slanders which were printed against him in the pages, and sought a duel. Consequently it was considered prudent to have a change to meet the demands of a different market. But when Mr. Ruskin's writings appeared—and it is well to remember his championship of Turner was originally inspired by an article in *Blackwood*—the latent savagery was revived, and an effort was made to treat him as Hunt, Keats, Tennyson, Charles Lamb, Hazlitt and other representatives of the "Cockney School" had been treated at a more remote time. It shows what business can do when we find the name of the firm is now associated with the eulogy of a writer who was once derided as if he were a fool. Whether he would be satisfied is another question. The publication of the book makes it also evident that Ruskin has become a power in literature which cannot be ignored even by those who at one time gloried in being his enemies. His friends will say it is truth which has at last prevailed, while others will attribute the change to literary skill rather than to sound theories.

There is some fitness in allowing a lady to form an estimate of Ruskin. It must be acknowledged there is more or less femininity about his writings, and many of his acts and thoughts which seem incomprehensible to men are undoubtedly appreciated by women. From his studies of wild nature and of the destructive forces of the universe, he sometimes speaks as if he possessed the spirit of an ancient warrior, and believed that merciless war must be the prelude to reformation. His admiration of the Lombard griffin that so savagely mangles other living things, and his contempt of the Classic griffin that was as playful as a kitten, suggests his militant mood. But an attentive reader of his books and an observer of his life cannot fail coming to the conclusion that John Ruskin was adapted by nature to be the warden of some institution where girls were taught, where they wore white robes and floral crowns, competed for medals, elected May queens, and, in short, were qualified to be models for Carpaccio, or illustrations of "Sesame and Lilies." If he held that position we may be sure his pupils would find a charm in his books which is invisible to masculine students. Mrs. Meynell has evidently read and remembers Mr. Ruskin's numerous volumes, including those which are mainly technical or professional, and has tried to establish some unity between his conclusions. Her book is therefore of a superior character to those which are mainly abstracts or quotations from his pages, and which are consequently fragmentary. Mrs. Meynell endeavours to form a whole, a genuine book, not a thing of shreds and patches, and when the complicated character of the subject is considered that is a far more difficult task than if she had ignored the exact words of Ruskin, and contented herself with expressing her own thoughts about his work and the influence it has exercised. As Mrs. Meynell has avoided appearing as a compiler, so also she rarely lapses into idolatry. There are expressions which suggest a sense of Ruskin's shortcomings, and especially of his desire that whatever served for his own gratification should be taken by all as a measure of what was best in life and art. For example, he had an objection to the usual system of treating light and shade, which arose no doubt from some peculiarity of his acute vision or from early prejudices, and Mrs. Meynell says of this characteristic:—

> Let me hazard the suggestion that Ruskin seems resolved, in treating the Gothic or colour schools, to set his painter with his back to the sun, so that he shall see all things illuminated, indeed, but strong in their own colour; and forbids him to face the sun and to see all the world as it looks in that great confrontation—lustrous and illuminated, indeed, but made up of infinite and innumerable shadows. But why should not the colourist look with the sun to-day and towards the sun to-morrow, and belong to both the two great schools by that simple power of taking both stations? A man and the sun may surely be allowed a complex and various relation with one another. True, Ruskin's theory of local colour was learnt in front of the works of the Tuscans, and above all in the library of Siena, but is nothing to be added to Tuscany by Holland, by Norwich, by France? His own Turner faced the sun, and he himself faces the sun in half his writings.

In the foregoing extract we have a thought of the writer definitely expressed and complete. But when it is attempted to give the spirit of a passage by Ruskin in a few words there is, as was to be expected, less success. In one chapter, for instance, there is reference to a comparison in a lecture by Mr. Ruskin of an Eve by a Lombard sculptor and an angel by a Celtic illuminator, when it was said the barbarous carving had a future, while the painting could have no artistic future. To a reader unacquainted with Ruskin's books the cause of the difference will appear inexplicable, but, if we remember rightly, it was pointed out that while the sculptor made an effort, although an unsuccessful one, to be correct in his representation, the illuminator omitted some of the features and yet remained satisfied with the result. It is an impossibility by any intellectual or hydraulic process to condense an array of volumes so rich in thought into one. Ruskin's approved "Selections" impart a less perfect idea of his thinking than Mrs. Meynell's volume, although they are four times as large. It is impossible, however, to produce any essence, abstract or spirit representative of writings so multiplex and varied that can be considered as consistent throughout. Mrs. Meynell says that Ruskin's books "may be likened to a sidereal sky beheld from an earth upon the wing. Many, innumerable, are the points that seem to shift and journey, to the shifting eye. Partly it was he himself who altered his readers, partly they changed with the long change of a nation, and partly they altered with successive and recurrent moods. John Ruskin wrote first for his contemporaries, young men; fifty years later he wrote for the same readers, fifty years older, as well as for their sons." Much of the difference arose from his habit of displaying the process of his thought while it was incomplete, instead of waiting until his notions had become matured. He once said that he found it necessary to contradict himself four times before he was satisfied about the truth of his conclusions. That was no doubt an agreeable exercise for himself, but what is to be said for those who put their trust in the first, or second, or third conclusion? With an ordinary writer there would be dissatisfaction; Mr. Ruskin was equally pleasing whether right or wrong. While he believed he was taken to be a seer, or it may be a prophet, he was in reality simply looked on as an entertainer who was able to surprise people by his manner of stringing words together. If his mother's intentions had been realised, and Ruskin became a rector, and perhaps a bishop, what he said about the necessity of a reform would be read with respect. As he was without the ecclesiastical halo he was treated like the multitude of lay writers.

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* *Modern English Writers.* By Mrs. Meynell. (Messrs. Blackwood & Sons.)

Carlyle, who was still more emphatic in his utterances, and who believed he was an inspired guide, was not more successful. Both men should have been happy in the consideration of being useful in whiling away the time of readers, and in that way giving them oblivion from everyday cares. Architects have another reason for indebtedness to Ruskin. He was the first writer who succeeded in making a building interesting by means of words, and that feat could not fail to have effect in promoting architecture.

Photography has made Mr. Ruskin's face familiar throughout the country. But the following description of him by Mrs. Meynell supplies the deficiencies of the plate :—

> In his central or later-central years John Ruskin was a thin and rather tall man, very English (Scottish in fact, but I mean to indicate the physique that looks conspicuous on the Continent), active and light, with sloping shoulders. He had a small face, with large features, the eyebrows, nose and under lip prominent; his eyes were blue, and the blue tie—by the peculiar property of a strong blue to increase a neighbouring lesser blue instead of quenching it—made them look the bluest of all blue eyes. He had the "r" in the throat, the "r" of the Parisians, which gives a certain weakness to English speech, and in lecturing he had a rather clerical inflexion. He was a disciple (as in his relation to Carlyle and later to Professor Norton), a master, a pastor, a chivalrous servant to the young and weak, but too anxious, too lofty, to be in the equal sense a friend. . . . Lonely and unhappy does the student perceive him to have been who was one of the greatest of great men of all ages; but the student who is most cut to the heart by that perception is compelled to wish him to have been not less but more a man sacrificed.

The last sentence is characteristic. In the old days a painter who wished to see a crowd of women kneeling before his *Saint Sebastian* took care to show the body transfixed with a great many arrows, although one ought to have been sufficient to cause death. The feeling is not easily analysed which desires to see a man overburdened with troubles. It may arise from a sense of justice and a belief that he merits little mercy; but whatever the cause, its existence cannot be doubted. From the peculiar constitution of his mind Mr. Ruskin understood the necessity of paying a price in that way for sympathy. Few men were endowed so liberally with the means to secure happiness, and if he became "Your poor John Ruskin," it was through his own noble mismanagement. If he possessed a particle of humour he must have realised there was little need for him to be broken by sorrow. But on the other hand, the worries he created for himself may have served like the intoxicants of other men to inspire him with ideas. Feed a man well, says Goldsmith, and he will compose like a mortal; starve him and he will write like a demi-god. Mr. Ruskin found privations of another kind no less serviceable.

Ruskin chastened himself (in imagination) for the vanity he had shown in fine writing. But his manner of expressing his thoughts was always characteristic, for he could mould language as he pleased. If he had adopted a more severe style the success he attained would be less remarkable. People might not be persuaded to carry out his recommendations, but that is a common case with preachers. He, however, secured a hearing, which is not possible for all teachers. Mrs. Meynell considers that his style is never so happy as in the series of letters known as "Fors Clavigera," and says:—

> Ruskin's diction is noble in vigour and high in vitality in this work of impassioned intellect. Not here does he force with difficulty the tired and inelastic common speech to explain his untired mind, as in some pages of his "Modern Painters;" not here are perorations of eloquence over rich; not here constructions after Hooker, nor signs of Gibbon. All the diction is fused in the fiery life, and the lesser beauties of eloquence are far transcended. During the publication of these letters the world told him, now that he could express himself but could not think, and now that he was effeminate. But he was giving to that world the words of a martyr of thought, and the martyr was a man.

The aim of the volume, or essay as it is called, is to be principally a "handbook of Ruskin." For that purpose we have met with no volume which will be so serviceable to students. There are extracts enough to suggest some of the characteristics of his thought and style, and they are connected by passages which are evidence of a serious study of his works. For all who have yet to make acquaintance with the works of a remarkable thinker it will be a most useful preparation, and the few who are entitled to be considered Ruskinites will find interest in the manner in which his principal doctrines are set forth.

THE PARIS EXHIBITION JURIES.

THE following jurymen have been selected to award the medals and other prizes for works of art in painting, sculpture and architecture:—MM. Adan, Bénédite, Béraud, Besnard, Billotte, Bonnat, Bouguereau, Jules Breton, Busson, Carolus-Duran, Raphaël Collin, Dawant, Detaille, Dubufe, De Fourcaud, Gérôme, Gervex, Gruyer, Guillemet, Henry Havard, Humbert, Lafenestre, Larroumet, Jeal-Paul Laurens, Jules Lefebvre, Lhermitte, Maignan, Molinier, Tony Robert-Fleury, Roll, Henri Béraldi, Bouchot, Chaplain, Dayot, Gustave Geffroy, Renouard, Roty, Armand Silvestre, Bartholdi, Jules Comte, Dalou, Paul Dubois, Philippe Gille, Louis Gonse, Guillaume, Injalbert, Kæmpfen, Antonin Mercié, André Michel, Mathurin Moreau, Rodin, Roger Marx, Thomas de Baudot, Coquart, Corroyer, Daumet, Guadet, Lisch, Normand, Roger-Ballu, Scellier de Gisors, Vaudremer.

For the section of the decoration and furnishing of public buildings and residences the jury will consist of MM. Georges Berger, Georges Cain, Marcel Jambon, Magne, Luc-Olivier Merson, Follot, Gillou, Chevrie, Damon, Majorelle, Henri Cain, Jules Guiffrey, Charles Legrand, Frantz Jourdain, Baumgart, Félix Bracquemond, de Luynes, Georges Vogt, Léon Appert, Gaston le Breton, Georges Maës, Chancel.

Civil engineering will be represented by MM. Boutan, Edouard Chatelin, Amédée Guillotin, Agnellet, Ferdinand de Dartein, Florent Guillain, Huet, Maurice Lévy, Louis Pascal, Francisque Reymond, Amédée Bollée père, Ad. Clément, Forestier, Cléraut, Glasser, Gouin, Emile Heurteau, Emile Level, Metzer, Noblemaire, Perouse, Sartiaux, Bonnardel, Joannès Couvert, Fernand Crouan, Dal-Piaz, Amédée Lefèvre-Pontalis, Albert Arman de Caillavet, Paul Decauville, Paul Renard.

The jurors for electricity are MM. Hospitalier, Mascart, Gaston Sciama, Henri Becquerel, Edmond Bouty, Moissan, Alexis Cance, Paul Janet, Ferdinand Meyer, Gustave Seligmann-Lui, Lazare Weiller, Max Champion de Nansouty, Arsène d'Arsonval, Eugène Sartiaux.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

A MEETING of the Institute of Architects was held on Monday evening last, Mr. E. A. Gruning, vice-president, in the chair.

Among the members attending for the first time, who were introduced to and formally admitted by the chairman, were the two lady associates, Misses B. M. and E. M. Charles.

Mr. J. M. Brydon read a paper on

The Work of Professor Cockerell, R.A.

Professor Cockerell, Mr. Brydon said, formed a connecting link between the old order and the new. He came when the men and the methods of the Renaissance were gradually being worked out. Under Robert Adam, English Classic had become somewhat emaciated, and though Chambers still upheld the principles of the Renaissance as practised in its best days, the letter of its tradition was now being neglected, if not altogether lost sight of. The English Renaissance school, from Inigo Jones to Chambers, had never attempted to hide its buildings behind pseudo-Classic fronts, or to palm off Greek and Roman temples for Christian churches. Its use of Classic details was always subservient to the purposes of its buildings, and its buildings to the requirements of the time in which they were built. On the other hand, the "Revivalists" seemed to have a principle that modern purposes should be made subservient to foregone architectural styles. This distinction must be borne in mind for a proper appreciation of the efforts made by such men as Cockerell and Barry towards the elucidation of the true principles of design. These two men, conscious of the hopelessness of the path the Revivalists were pursuing, followed each the bent of his own genius, the former reverting to the Italian of the Renaissance, the latter carrying his Greek culture and refinement into the everyday work of his time. Of the notable architects of the time none had a stronger grasp of Greek detail or used it with more sympathetic expression than Playfair, or a deeper knowledge of the principles of Italian art than Barry. Cockerell, at once a great artist and a scholar, drew his inspiration from both sources, combining the adaptability of the Italian with the refinement and grace of the Greek, while through it all ran the impress of his own individuality.

In Cockerell's time the battle of the styles was in full swing. The competition for the Houses of Parliament had given an impetus to the revival of Mediævalism. Even Cockerell was not altogether proof against this influence, as witness his Gothic work at Harrow Schools and Chapel and at Lampeter College, done at a time when his mind was occupied with the restoration of the Roman Forum, the Parthenon at Athens, and the congenial work of designing Hanover Chapel, Regent Street.

Before noticing his works the author gave a brief sketch of Cockerell's early career. He was born in 1788, and was the son of Samuel Pepys Cockerell, a well-known architect, and surveyor to the East India Company. He was educated partly at Westminster School. His professional training was begun in his father's office, and he afterwards entered Sir Robert Smirke's office as an assistant. When in his twenty-second year he began his foreign studies, in the pursuit of which he twice thoroughly explored the mainland of Greece and its islands, returning again and again to Athens. Then he visited Sicily and Italy, staying at Naples, Florence and Rome. On his way home he spent some time in Paris, returning to England after an absence of seven or eight years, four of which were spent in Greece. He studied incessantly, made notes and sketches and restorations, many explorations of temples and other buildings, and particularly of Greek sculpture, and generally stored his mind with the knowledge he afterwards gave to the world in his famous lectures and books and still more famous work.

At the age of thirty he commenced his first real work, the Literary and Philosophical Institution, now the Freemasons' Hall, at Bristol, a design marked by that sense of proportion and purity of detail which became such marked characteristics of his later works. After some additions to Harrow School, and Bowood for Lord Lansdowne, came his first work of primary importance, Hanover Chapel, Regent Street. Here he distinguished himself at once by his originality of plan, design and refinement and delicacy of detail. Though hampered by difficulties of site the result was an artistic triumph, a veritable revelation in the adaptability of Greek art to modern purposes. It is to the lasting shame of all concerned in the transaction that this work of a great master should have been sacrificed to the craving after ground rents.

His next commission was the National Monument on the Calton Hill, Edinburgh, a work in which he was associated with Playfair, of Edinburgh, and which as originally conceived was to be a reproduction of the Parthenon, and on the same magnificent scale. The work unhappily was never completed, yet something of the spirit of the great Greek temple is visible in the fragment of the work carried out; its exquisite proportion, its beauty of detail, show how true was the architect's appreciation of the majestic original at Athens.

As Cockerell's practice increased, he engaged with more or less success in several competitions, amongst others for the Cambridge University Library and Museum. This competition partially failed and had to be done all over again. Ultimately Cockerell's design was chosen, but was never fully carried out—a matter greatly to be regretted, judging by the north wing, the only portion actually erected. The Westminster Insurance Office, now the office of the *British Medical Journal*, in the Strand, erected about this time, was the first of a notable series of buildings for commercial purposes, which, perhaps more than any others, shows the master's individuality. It has all the characteristics typical of its designer which were developed with such success in the Sun Fire Office in the City and the Liverpool and London Insurance Buildings at Liverpool and the Bank of England building in the same city. While seeking his inspiration from Greece rather than from Italy, while clothing all with the mantle of Greek refinement rather than with the luxury of the Renaissance, he never forgot he was designing buildings for modern purposes. He bestowed much study on the masonry of his façades. The size and proportions of the stones were made to play a subtle part in the harmony of the general design. His angle quoins and rusticated courses were cunningly devised to assist the general scale and expression of his elevations. As an object lesson showing how these features may be employed with reticence yet with power, Mr. Brydon commended to students the careful study of the Dale Street front of the Insurance Buildings at Liverpool, one of the finest pieces of design in modern Classic. The author deplored the recent alterations at the Sun Fire Office, Threadneedle Street. Recognising the difficulties the task of altering such a building presented, he considered it should have been accomplished with more regard for the work of such an artist as Cockerell. The original work might have been left alone to speak for itself, and the additions designed in harmony with it; but, as carried out, the whole of the proportions of the building had been altered.

Another worthy monument of Cockerell's skill and genius, the Taylor and Randolph buildings at Oxford, was won in a competition and carried out during the years 1841-46. This work bespeaks the artist and the scholar in every line, and proclaims the architect a consummate master of his craft. Though not a large building it has a quiet dignity which enables it to hold its own in a city renowned for its architectural monuments. It is the architect's work at his very best. One feels the grace of its Greek refinement in proportion and in detail, the appropriateness of its sculpture and carving, the judicious contrast of plain surface and richness of effect with all the wealth of knowledge and skill, and yet that reticence of design which goes to make an architectural work of the highest merit.

Two public buildings of the first importance left unfinished at the death of their architects were completed by Cockerell, viz. the FitzWilliam Museum at Cambridge, commenced by Basevi, and of which Cockerell completed the hall and staircase, and St. George's Hall, Liverpool, the noblest monument of the Classic revival in England, designed by the younger Elmes. Of the latter building, upon which Cockerell laboured for nearly seven years, the magnificent decorations of the great hall, the stateliness of the courts, the Doric beauty of the northern entrance hall, and the elegance of the circular concert-room on the first floor are all due to his genius. Sir James Picton describes the building as one of the greatest triumphs of art in modern times, and Fergusson speaks of it as the culminating and by far the most successful specimen of this style of art in England, and perhaps in Europe.

The author referred to important competitions in which Cockerell unsuccessfully took part, and to his designs for the Royal Exchange and the Houses of Parliament. The latter, for all its merit, the author felt bound to admit failed to come within measurable distance of Sir Charles Barry's magnificent structure, either in grasp of the subject or in plan or elevation. As regards the Royal Exchange, the successful competitor, Sir William Tite, considered it one of the most remarkable works of art in connection with architecture he had ever known. Tite and Cockerell carried out the London and Westminster Bank in the City in collaboration; they were the only competitors for the work, and at Tite's instance they agreed to act as joint architects, the arrangement being readily adopted by the directors. The exterior is marked by Cockerell's hand, and its characteristic style has been followed in all the extensions of the bank.

Besides being an accomplished architect and a brilliant draughtsman Cockerell was a learned archæologist and much of a sculptor. He drew the figure with remarkable power and expression; he managed to grasp the broad monumental style of the great Greek age, as witness his design for the pediment of St. George's Hall, described by Elmes as one of the finest compositions in sculpture ever executed in this country. Of the ornamental carving he designed, fine examples exist on the Taylor building at Oxford and on the Insurances Offices, Dale Street, Liverpool.

The author then touched upon Cockerell's literary labours, his discoveries in Greek archæology and his restorations of ancient Classic work. He was an authority on all matters pertaining to Greek art. To his energy we owe the discovery of the Egina and Bassæ marbles, and a knowledge of the proper purpose and position of the colossal statues at the Temple of Jupiter Olympius at Agrigentum.

Numerous honours were conferred upon him in his own country and abroad. He held the chair of architecture at the Royal Academy for seventeen years, was surveyor to St. Paul's Cathedral, was the first to receive the royal gold medal for architecture and was the first architect President of the Institute. He died in 1863, and was buried in St. Paul's Cathedral, the fabric of which had been under his care for forty years.

Mr. Brydon's paper was illustrated by a large collection of photographs and drawings representative of Cockerell's chief works.

Dr. Alexander Murray, who proposed a vote of thanks to Mr. Brydon for what the speaker called an appreciative sketch, said in the British Museum Professor Cockerell's name was held in the very highest esteem. His efforts at Bassæ and elsewhere enabled the Museum to take an important rank in the world in presenting a collection of Greek and Roman art, instead of a catalogue of Greek sculpture.

Mr. H. H. Statham seconded the vote, which was supported by Professor W. M. Fawcett, Mr. R. Phenè Spiers and the Chairman.

THE NATIONAL GALLERY.

THE Trustees and Director of the National Gallery announce that Lady Tate, in accordance with a wish expressed by Sir Henry Tate, has most generously purchased to offer as a gift to the nation the well-known picture, by the late Sir John Millais, P.R.A., of *The Boyhood of Raleigh*, exhibited at the Royal Academy in 1870.

The two following pictures have been purchased for the National Gallery:—

The Courtyard of the Coptic Patriarch's House in Cairo, by John F. Lewis, R.A. This is a small, highly-finished study for the larger picture of the same subject exhibited at the Royal Academy in 1864. It was purchased at the sale of Mr. Alfred Harris's collection in March, and is now placed in Room III. of the National Gallery of British Art, Millbank.

A picture containing the portraits of an elderly man and his wife, of the Flemish school, of the end of the fifteenth or early in the sixteenth century. The figure of the man includes the hands, that of the woman shows the head and shoulders only, as she is placed behind her husband. This remarkable painting was exhibited at the winter exhibition of the Royal Academy in 1879, and was then attributed to Quintin Matsys. It was much commented on and was by some considered to be a work of the German school. It is placed in the Flemish room, No. IV., of the National Gallery.

A further transference of pictures of the more modern British schools has been made from Trafalgar Square to the Tate Galleries at Millbank, thus allowing of the better exhibition of the works of the older schools remaining in Trafalgar Square. The overcrowding of the Turner Room has been partly relieved, six of the finest works of his earlier time having been removed from Room XXII. into Room XXI., where they now occupy a wall to themselves. The screens have been taken away, and all the pictures in the British section are now hanging on the walls. Some pictures of the modern foreign schools have also been removed temporarily to the Tate Galleries. The extension of these galleries by Sir Henry Tate's addition of ten rooms, thrown open to the public last year, has allowed of a rearrangement of the collection which is now in course of being carried out. The pictures transferred from Trafalgar Square are being arranged in Rooms I., II. and III., to the left of the entrance. The Tate collection is being disposed more advantageously in Rooms IV. and V. than when they were crowded into one room, and the pictures presented by Mr. Watts, R.A., are all hung together in one large room. The whole suite of rooms to the right of the entrance is reserved for the pictures purchased under the terms of the Chantrey bequest, three of the galleries being already filled.

THE SOCIETY OF ARCHITECTS.

THE members' annual dinner of this Society was held on Wednesday evening last at the St James's Restaurant, Piccadilly, W., Mr. T. W. L. Emden, J.P., L.C.C., president, in the chair.

Among those present were:—Sir Wyke Bayliss, F.S.A., the Rev. Dean Langton Geo. Vere, Professor Silvanus Thompson, F.R.S, Dr. Ward Cousins, Messrs. A. Jacob, Alfred Roberts, J, Barron Ward, C. Wall, A. A. Hudson, Atherley Jones, Q.C., M.P., Edgar Farman, E. J. Naldrett, G. A. T. Middleton, W. T. Madge, Chas. Martin, A. K. Carlyon, J.P., W. E. Riley (supt. architect, L.C.C.), Goddard Clarke, J.P. (chairman, Building Act Committee, L.C.C.), J. S. Fletcher, J P. (deputy chairman, L.C.C.), J. W. Dunford, H. G. Gardner, W. A. Scott, T. G. Byrne, S. C. Arding, C. B. Arding, A. W. Roques, R. Cromwell Edwards, C. E. Jackson, J. Stovell, W. Beck, Silvanus Trevail, J.P. (vice-president), G. P. Smedley, W. H. Lascelles, Bernard Strauss, Alfred Stoner, B. R. Tucker, H. Champness, Geo. E. Bond, C. E. Skinner, G. H. Seavey, C. Day, J. Hines, E. J. Hammond, J. R. Featherby, J.P., D. L. Fulton, G. Gard Pye, R. F. Vallance, T. G. Price, E. J. Strevens, Strevens, Newton, P. Condy, E. H. Dring, A. R. G. Fenning, H. G. Quartermain, Ellis Marsland (hon sec.), O. Marsland, Walter C Williams, S. Marsland, Geo. Adams, A. J. M. Drysdale, F. W. Macey, J. Bartlett, T. Marcus Houghton, J C. Jackson, A. Quartermain, E. J. Hamilton (past president), J. R. Manning, C. Haslett, Rev. A. Mercer, M.A., Messrs. P. Zimmermann, W. Leck, H. W. Dobb, Henry, Moule, W. Cooper, S. Roper, Leslie, Lieut.-Col. F. S. Leslie, R.E. (vice-president), A. H. Stoner, and Mr. McArthur Butler (secretary).

The President proposed the toast of "The Queen," which was received with enthusiasm, together with musical honours.

The President proposed the toast of "The Houses of Parliament," coupled with the name of Mr Atherley Jones, Q.C., M.P. The Houses of Parliament, the speaker said, preferred short speeches, and he proposed to follow their example in that respect. They knew that if Parliament debated long or shortly they debated for the benefit of the Empire. Their modes of government were unequalled, and no Britisher could find better examples of legislators than were to be found in both Houses.

Mr. Atherley Jones, in responding, said it was always an honour for the humblest member of the House of Commons to reply to the toast of the Houses of Parliament. The Society of Architects had not much reason to be proud of the House of Commons, because the measure which that body had promoted had not been passed. The fortune of all private members' Bills depended upon chances, and some evil fate had prevented the passage of the Architects' Registration Bill. The Government had a monopoly of the time of the House at the beginning of the session, which it devoted generally to the passing of ostentatious measures to secure public opinion. The Society of Architects' Bill would meet with considerable opposition because such registration was by many members deemed unnecessary. The best course to be pursued would be to submit the Bill to a Select Committee, and that committee should take the evidence of all persons who addressed it in maintaining the efficiency of the profession, thereby ridding the Bill of all objectionable features. The measure had really a great object in view, as it wished to serve the interests of the public at large.

Mr. J. R. Manning, who proposed "The Clergy," said at one time the members of the Church were rivals to the architects, but now the clergy became their clients rather than their competitors.

The Rev. Dean Langton Geo. Vere, who responded, said the clergy always tried its best, no matter to what denomination they might belong, or in times of peace or war. He hoped the Society of Architects would do much to revive ecclesiastical architecture.

Mr. Silvanus Trevail proposed "The London Authorities," and placed the City Corporation of London first because it was an older body than Parliament itself. The City seemed as well governed as the outside portions of London, and they would be sorry, he said, to see the Corporation dissolved or disestablished. After the City and Corporation came the London County Council, who were looked upon as an important body, and much was expected from them. Parliament, however, would not be generous towards them, and throttled many of the suggestions they brought forward. London had not one decent street compared to some other continental towns, although the Metropolis boasted many capable men; this was due mostly to the land tenure system which existed. London was a huge city of mediocrity, and there were greater possibilities of improvement in building than in any foreign capital by the new betterment scheme.

Mr. J. S. Fletcher (deputy chairman London County Council), who responded, said there was not a harder working body in the world than the London County Council. They did much towards the beautification of the Metropolis, and they would endeavour to make the new street they had undertaken not only worthy of London, but the most beautiful and healthiest in the world.

Sir Wyke Bayliss proposed "The Society of Architects and Architecture." The speaker said to call upon him for such a toast was like inviting a lover to sing the praises of his mistress. There was scarcely a cathedral on the Continent that he had not so often drawn but that he could paint it from memory, and if necessary rebuild it if it was destroyed. All the elements in which science moved and the forces of nature were adapted by the architect for his work. He drank therefore to architecture.

The President responded, and said that if they did not succeed in beautifying London, they could always be assured that the expert had tried to do his duty in that respect. London was a congregation of cities, and this prevented any consecutive idea being carried out through any great portion of the Metropolis. But the more interesting subject to all and to the public was the placing of architects in a position where they could be looked up to as professional men. In foreign cities an architect was practically a Government servant; he had not only to pass an examination, but he was bound to prove his capabilities. The Society of Architects, although one of the younger professional societies, recognised the importance of such qualifications, and desired to accomplish that end by registration. It was not, he said, for their Society to stand in the front and dictate, but if the older societies were not brave enough to stand in the breach the Society of Architects would stand there alone.

The toast of "The Visitors" followed.

A musical programme was well appreciated between the toasts.

TESSERÆ.

Reynolds as a Costume Painter.

LIKE Holbein and Vandyke, Sir Joshua Reynolds put his stamp upon the times, or rather, like a true artist and philosopher, he took that aggregate impression which the times gave. Each has doubtless given his sitters a character of his own, but this is not our argument. Each has also made his sitters what the costume of the time contributed to make them If Vandyke's women are dignified and lofty it is his doing, for he was dignified and lofty in all his compositions; if they are also childish and trivial it is the accident of the costume, for he was never either in his other pictures. If Reynolds's sitters are all simple, earnest and sober, it is because he was the artist for he was so in all he touched; if they are also stately, refined and intellectual, it was the effect of the costume, for he was not so in his other conceptions. For instance, Lady St. Asaph with her infant, lolling on a couch in a loose tumbled dress with her feet doubled under her, is sober and respectable-looking, in spite of dress and position. Mrs. Hope, in an enormous cabbage of a cap, with her hair over her eyes, is blowsy and vulgar in spite of Reynolds. The average costume of Sir Joshua was excessively beautiful. We go through a gallery of his portraits with feelings of intense satisfaction that there should have been a race of women who could dress so decorously, so intellectually, and withal so becomingly. Not a bit of the costume appeals to any of the baser instincts. There is nothing to catch the vulgar or fix the vicious. All is pure, noble, serene, benevolent. They seem as if they would care for nothing we could offer them if our deepest reverence were not with it. We stand before them like Satan before Eve, "stupidly good," ready to abjure all the fallacies of the ancients, all the maxims of the moderns; ready to eat our own words if they disapproved them, careless what may have been the name or fame, family or fortune of such lofty and lovely creatures—yea, careless of their very beauty for the soul that shines through it.

Glazed Tiles for London Façades.

There are two methods by which a ceramic surface may be obtained in the façades of London houses; first, by facing the structure with coloured bricks so disposed as to accentuate the architectural and constructive lines of the building, in the same manner that coloured brick and terra-cotta are used in the North Italian buildings of the fifteenth, sixteenth and seventeenth centuries, the only difference being that the outside surface of the bricks would be rendered soot-repelling by being glazed. The second method by which a soot-repelling ceramic surface may be given to our London façades is by covering them with porcelain tiles, architecturally disposed and set in cement; and this method is already coming into very general use for giving a light-reflecting surface to the interior courts, the passages and the staircases of City offices. It is, moreover, one which has been used for centuries past in the East, especially in Persia and Scinde, on the grandest scale, with the most magnificent architectural effect. Fergusson, in describing one of the earliest Persian buildings so decorated (the ruined mosque at Tabreez, built in the thirteenth century), speaks of this mode of decoration as follows:—"In this mosque, the mode of decoration is what principally deserves attention; the whole building, both externally and internally, being covered by a perfect mosaic of glazed tiles of very brilliant colours, and wrought into the most intricate patterns, with all the elegance for which the Persians were in all ages remarkable. Europe possesses no specimen of any style of ornamentation comparable to this. The painted plaster of the Alhambra is infinitely inferior, and even the mosaic painted glass of our cathedrals is a very partial and incomplete ornament compared with the brilliancy of a design pervading the whole building and entirely carried out in the same style." Ispahan abounds with mosques on the largest scale, with colleges and caravanserais, the whole of which are covered, façades, domes, minarets and quadrangles, externally and internally, with these brilliant tiles. In summing up his account of Persian polychromatic architecture, Mr. Fergusson observes that "The Persians carried the mode of decoration to an extent never attempted in any other part of the world. This, too," he remarks, "constitutes its principal claim to interest in an artistic point of view, since it shows how far polychromatic decoration may be used, both internally and externally, not only without any offence to good taste, but with the most complete success, in producing that beauty and splendour which is the aim of all architectural utterance."

Old English Church Building.

It is supposed by some that it had been the practice before the Reformation to divide parishes and build places of worship according to the increase of inhabitants. It is certain, however, that there was no public provision for this, nor could there be at the period in which Christianity was introduced among us. The cathedrals and larger monasteries were mostly founded and endowed by royal personages, either from an impulse of piety or as an atonement for acts of injustice and blood. Powerful men were taught that in this manner they might redeem the penance which they had incurred. In the laws of Edgar it is said, "He that has ability may raise a church to the praise of God; and if he has wherewithal let him give land to it, and allow ten young men, so that they may serve in it, and minister the daily service." In like manner it was an act of atonement to repair a church. Motives of ambition as well as of piety and repentance induced men also to erect places of worship. It was a law or custom that "if a churl thrived so that he had five hides of his own land, a church, a kitchen, a gate, a bell-house, a seat and several offices in the king's hall, then was he thenceforth the Thane's right-worthy;" and from this usage, says Stavely, "we may observe that there is scarce any village, town, or hamlet; but it still retains or anciently had some church or chapel, there built by some chief proprietor in that place or circuit." Thus it was that those edifices were originally founded, so many of which still remain as the great ornaments of the country, and which were so distinguished for their beauty that in the old verse they are enumerated among the things for which England was remarkable—"Anglia, mons, fons, pons, ecclesia, fœmina, lana." Provision for dividing parishes was not made when the churches were first built and the parishes originally constituted, because the future evil was not foreseen, nor were there in that stage of society any indications whereby it might be apprehended. Few generations escaped some scourge, either of war or of pestilence, by which the country was thinned from time to time; considering the frequency of these visitations, the violence with which the plague and the sweating sickness and the desperate desolation with which our civil wars were carried on, it may reasonably be inferred that the population of England in the days of Henry VIII. little, if at all, exceeded what it was at the Conquest. The few towns which increased in size increased slowly, and old towns are always well provided with churches, because no small part of the wealth which in those ages was acquired by trade was thus meritoriously bestowed.

Roman Farm Buildings.

On the subject of farm buildings it is difficult to gather much from the Roman writers, principally because they were complicated with the villa, which was, as its name implies, the country abode of the landlord. On this point Cato forgets his usual frugality, and recommends comfort approaching to luxury, with a view of attracting and retaining the residence of the proprietor. Columella is very elaborate on this subject. In the first place, he is fastidious as to situation, both on the score of health and jocundity, and his only prudential maxim is that a villa should be situated at some distance from a high road, as otherwise all your idle acquaintance will be dropping in upon you, and will very much interrupt the business of the farm. In giving the plan of the villa he is very diffuse on the apartments of the proprietor, the winter apartments, the spring apartments, the summer apartments and the bath-rooms, and on their respective aspects. The pleasure grounds come in also for a specific notice; but his directions for the "Rustica"—which includes the kitchen, the servants' lodgings and the stables—and the "Fructuaria," which comprise the oil-cellar and press-room, wine cellar, hayloft, granary, &c., are less precise and intelligible. Both Cato and Varro prescribe in general terms that the farm should not be too large for the villa, nor the villa for the farm, and point out the inconvenience of each excess, and both give instances of known parties by whom respectively each of these maxims has been transgressed. It is not, however, till we come to Palladio, in whose time tenant farming had become more usual, that we find any directions which are conformable to our notions of a farmhouse and buildings. He says that the buildings ought to be proportioned to the value of the farm, and that, in case they were burnt down, the extreme sum allotted to rebuild them ought not to exceed two years' rent, a sum which in our climate would be very inadequate to fulfil our notions of improved agriculture.

Foundation of Constantinople.

The master of the Roman world, who aspired to erect an eternal monument of the glories of his reign, could employ in the prosecution of that great work the wealth, the labour and all that yet remained of the genius of obedient millions. Some estimate may be formed of the expense bestowed with imperial liberality on the foundation of Constantinople, by the allowance of about 2,500,000*l*. for the construction of the walls, the porticoes and the aqueducts. The forests that overshadowed the shores of the Euxine, and the celebrated quarries of white marble in the little island of Proconnesus, supplied an inexhaustible stock of materials, ready to be conveyed by the convenience of a short water-carriage to the harbours of Byzantium. A multitude of labourers and artificers urged the conclusion of the work with incessant toil; but the impatience of Constantine soon discovered that, in the decline of the arts, the skill as well as numbers of his architects bore a very unequal proportion to the greatness of his designs. The buildings of the new city were executed by such artificers as the reign of Constantine could afford; but they were decorated by the hands of the most celebrated masters of the age of Pericles and Alexander. To revive the genius of Phidias and Lysippus surpassed indeed the power of a Roman emperor; but the immortal productions which they had bequeathed to posterity were exposed without defence to the rapacious vanity of a despot. By his commands the cities of Greece and Asia were despoiled of their most valuable ornaments. The trophies of memorable wars, the objects of religious veneration, the most finished statues of the gods and heroes, of the sages and poets of ancient times contributed to the splendid triumph of Constantinople, and gave occasion to the remark of the historian Cedrenus, who observes, with some enthusiasm, that nothing seemed wanting except the souls of the illustrious men whom those admirable monuments were intended to represent.

NOTES AND COMMENTS.

ANOTHER case under the Workmen's Compensation Act has been decided by the Lords Justices in the Court of Appeal, which casts additional light on the position of sub-contractors. In PERCIVAL *v.* GARNER the plaintiff was the widow of a workman who was killed while engaged on new works for Messrs. BOWMAN & Co., in Liverpool. They employed the architect and supplied the materials, but, not having workmen of their own, they obtained them from a Mr. GARNER, who was the defendant and appellant in the case. Beyond receiving a halfpenny per hour on the men's wages he had no part in the operations. The men worked under the direction of Messrs. BOWMAN'S foreman. The plaintiff's husband fell from a scaffolding and was killed. A claim for compensation was made against GARNER in the Liverpool County Court. He maintained he was not an "undertaker" under section 7 of the Act, which describes undertakers as persons undertaking the construction, repair or demolition of a building. The County Court judge took a contrary view of the liability, and made an award in favour of plaintiff. The defendant appealed. The Court of Appeal decided that Messrs. BOWMAN & Co. were the persons who had undertaken the erection of the building, which was erected on their land, according to the plans of their architect, and under their supervision. The mere supplying of labour was not enough, according to their lordships, to constitute an undertaker. The decision of the County Court judge was therefore reversed.

WHEN the Avenue Theatre was first proposed it was considered that the building would be acquired for the enlargement of the Charing Cross station. Unusual expedition became necessary in order to complete the theatre. Several years have elapsed without any change, but the increase of traffic has made it indispensable that Charing Cross station must be enlarged and extended, although the outlay will exceed a million. This will not be considered remarkable when it is known that about 558 trains enter and leave the station every day. In Villiers Street the whole of the property on the western side will have to be acquired. Much of the property on the east side of Craven Street belongs to the railway company, and it will now be used for constructing two additional platforms for long-distance traffic. The two on the Villiers Street side will be for local traffic. Passengers by the South-Eastern and London, Chatham and Dover lines will be glad to have the improvements at Charing Cross carried out, but unless there is more regard given to punctuality in the passenger traffic a more commodious station will not put an end to the general grumbling which now prevails.

AN effort is being made in Ottawa to prevent the accumulation in future of such vast quantities of timber as were found there at the time of the fire. If the removal of lumber to a greater distance from the town is not possible, it is proposed that arrangements should be made for rendering the timber less dangerous. During the fire the wind carried blazing boards among buildings and set them in flames. Fortunately the part of Ottawa where the principal buildings are found escaped, but it is admitted that if the direction of the wind had changed they were likely to have been destroyed. If the timber stores had been controlled by hydrants there is little doubt the destruction would have reached no more than insignificant dimensions. In England a provision of the kind is no less necessary. The London Building Act contains some enactments regarding the storing of timber and wood. But there is nothing said about having a supply of water in case of an outburst of fire, and timber-yards which existed prior to 1894 can continue the old-fashioned and dangerous arrangements.

ILLUSTRATIONS.

WESTMINSTER ABBEY: FROM PLAYGROUND, SHOWING TOWER AND ROADWAY FROM DEAN'S YARD.

ALTHOUGH the western towers of Westminster Abbey are not in keeping with any other part of the building, there can be no doubt they are accepted as the most characteristic features of the Abbey. If a view of any of the original parts of the building from which the towers were omitted was submitted to many Londoners we doubt if they would be able to recognise it. The majority of people do not perceive the differences between true and sham Gothic, and if any purist proposed the removal of WREN'S towers there would be a general outcry against the vandalism. It is difficult to understand WREN'S relation to the original work. He was not a lover of "the Gothic manner of architecture," and he was doubtful about the excellence of Mediæval construction. His own repairs, he said, had made the Abbey "much stronger than the first builders had left it." The roof he described as constructed according to "the bad Norman manner." But in proposing the erection of western towers and a spire, he agreed that the work should be "of a style with the rest of the structure, which I would strictly adhere to throughout the whole intention. To deviate from the old form would be to run into a disagreeable mixture, which no person of a good taste could relish." He also said:—"I shall speedily prepare perfect draughts and models, such as I conceive proper to agree with the original scheme of the architect, without any modern mixtures to show my own inventions." WREN could not, however, have derived his details from the earlier masonry. The project for the erection of a spire was abandoned. WREN did not witness the completion of his towers, for he died in 1723. Afterwards the work was undertaken by his pupil HAWKSMOOR, and finally by JOHN JAMES, the architect of the church of St. George, Hanover Square. The Dean of Westminster at the time was JOSEPH WILLCOX. He caused many alterations to be made in the environment of the Abbey. But he was most proud of his connection with the towers. They appear on his monument, in a portrait which hangs on the Deanery walls, and in the view of the Abbey which was painted for him by CANALETTI. He was buried under the southern of the two towers in a vault which he had especially constructed. The towers would not now be considered as remarkable for their height, although it is 225 feet; but in the beginning of the century during the French war they were turned to account, and semaphores were erected on them which were visible for a long distance.

INSTITUTE OF MECHANICAL ENGINEERS: THE LIBRARY.

HOMECLOSE, ISLE OF WIGHT.

THIS residence is near Chilton Chine, on the western coast of the island. It is built of local stone, with a vertical joint of Hygeian rock in the walls as a precaution against damp. The roofs are covered with Broseley tiles. The contractor was Mr. THOMAS JENKINS, of Newport, Isle of Wight, and the architect Mr. WILLIAM C. STREET, F.R.I.B.A., of 18 Walbrook, E.C. The cost was about 4,500*l.*

IMPERIAL HOTEL, HEREFORD.

THIS building is now in course of erection in Widemarsh Street, Hereford, for Messrs. SAMUEL ALLSOPP & SONS, and when completed will be principally used for market trade. The principal front from the ground to first floor is being built of Portland stone. The timber framing is in Stettin oak, and the roofs are covered with Broseley tiles. The contractors for the general building work are Messrs. W. BOWERS & Co., while the pewtering, plumbing, decorating and electric lighting are being carried out by Mr. J. C. VAUGHAN. Both are local contractors. The architects are Mr. G. H. GODSELL, F.S.I., and Mr. R. A. BRIGGS, F.R.I.B.A.

KING'S HEAD HOTEL, HEREFORD.

THIS hotel is in course of erection for Messrs. SAMUEL ALLSOPP & SONS. The external walls are built with 2½-inch pressed local bricks in old English bond, and the roof is covered with green Westmoreland slates in diminishing courses. The stonework is executed in Portland stone. The principal features of the building are the doorway in the angle to Broad Street and West Street, with circular oriel window above it, and the eaves cornice, which has a projection of 2 feet 6 inches from the face of the wall. The contractors for the general work are Messrs. W. P. LEWIS & Co., while the pewtering, plumbing, decorating and electric lighting are being carried out by Mr. J. C. VAUGHAN. Both are local contractors. The architect is Mr. G. H. GODSELL, F.S.I.

ARCHITECTURAL ACOUSTICS.—IV.*

In a subsequent discussion of the interference of sound it will be shown by photographs that the residual sound at any one point in the room as it dies away passes through maxima and minima, in many cases beginning to rise in intensity immediately after the source has ceased; and that these maxima and minima succeed each other in a far from simple manner as the interference system shifts. On this account it is quite impossible to use any of the numerous direct methods of measuring sound in experiments on reverberation. Or, rather, if such methods were used the results would be a mass of data extremely difficult to interpret. It was for this reason that attempts in this direction were abandoned early in the investigation, and the method already described adopted. In addition to the fact that this method only is feasible, it has the advantage of making the measurements directly in terms of those units with which one is here concerned, the minimum audible intensity. It is now proposed to extend this method to the determination of the rate of decay of the average intensity of sound in the room, and to the determination of the intensity of the initial sound, and thence to the determination of the mean free path between reflections—all in preparation for the more exact solution of the problem.

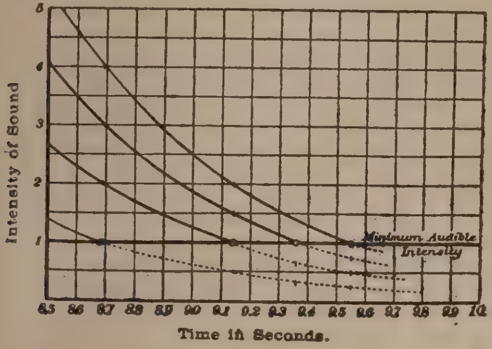

FIGURE 18.—DECAY OF SOUND IN THE LECTURE-ROOM OF THE BOSTON PUBLIC LIBRARY FROM AN INITIAL SOUND OF ONE, TWO, THREE AND FOUR ORGAN-PIPES, SHOWING ONLY THE LAST SECOND MAGNIFIED.

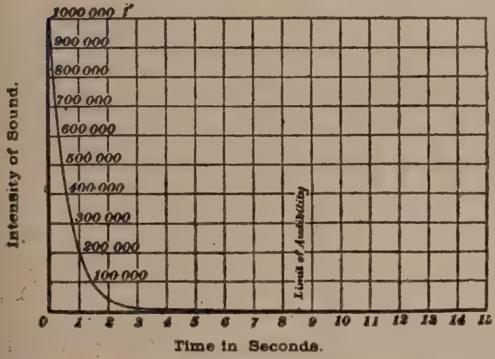

FIGURE 19.—DECAY OF SOUND IN THE LECTURE-ROOM OF THE BOSTON PUBLIC LIBRARY AFTER THE CESSATION OF ONE ORGAN-PIPE.

The first careful experiment on the absolute rate of decay was in the lecture-room of the Boston Public Library, a large room finished, with the exception of the platform, in material of very slight absorbing power—tile ceiling, plaster on tile walls and polished cement floor. The reverberation was very great, 8·69 seconds. On the platform were placed four organ-pipes all of the same pitch, each on its own tank or wind supply, and having each its own electro-pneumatic valve. All the valves, however, were connected to one chronograph, key and battery, so that one, two, three or all the pipes might be started and stopped at once, and when less than four were in use any desired combination could be made. One pipe was sounded and the duration of audibility of the residual sound determined—of course, as always in these experiments, by repeated observations. The experiment was then made with two organ-pipes instead of one; then with three pipes, and finally with four. The whole series was then repeated, but beginning with a different pipe and combining different pipes for the two and three pipe sets. In this way the series was repeated four times, the combinations being so made that each pipe was given an equal weight in the determination of the duration of audibility of the residual sound under the four different conditions. It is safe to assume that with experiments conducted in this manner the average initial intensities of the sound with one, two, three and four pipes were to each other as one, two, three and four. The corresponding durations of audibility shall be called t_1, t_2 t_3 and t_4. The following results were obtained :—

$t_1 = 8·69$ seconds $t_2 - t_1 = ·45$ second
$t_2 = 9·14$,, $t_3 - t_1 = ·67$,,
$t_3 = 9·36$,, $t_4 - t_1 = ·86$,,
$t_4 = 9·55$,,

It is first to be observed that the difference for one and two organ-pipes, 0·45, is, within two-hundredths of a second, half that for one and four organ-pipes, 0·86. This suggests that the difference is proportional to the logarithm of the initial intensity; and further inspection shows that the intermediate result with three organ-pipes, 0·67, is even more nearly, in fact, well within a hundredth of a second, proportional to the logarithm of three. This reinforces the very natural conception that, however much the residual sound at any one point in the room may fluctuate, passing through maxima and minima, the average intensity of sound in the room dies away logarithmically. Thus, if one plots the last part of the residual sound—that which remains after 8 seconds have elapsed—on the assumption merely that the intensity of the sound at any instant is proportional to the initial intensity, the result will be as shown in the adjacent diagram. The points at which the diminishing sound crosses the line of minimum audibility in the four cases are known, the corresponding ordinates of the other curves being multiples or sub-multiples in proportion to the initial intensity. The results are obviously logarithmic.

Let I_1 be the average intensity of the steady sound in the room when the single organ-pipe is sounding, i the intensity at any instant during the decay, say t seconds after the pipe has ceased, then $\frac{di}{dt}$ will at the rate of decay of the sound, and since the absorption of sound is proportional to the intensity, $\frac{di}{dt} = Ai$, where A is the constant of proportionality.

$$\frac{di}{i} = A dt,$$

$$\log_\epsilon i + C = At,$$

a result that is in accord with the above experiments. The constant of integration C may be determined by the fact that when t is zero i is equal to I_1; whence

$C = \log_\epsilon I_1$, and the above equation becomes

$$\log_\epsilon \frac{I_1}{i} = At.$$

At the instant of minimum audibility t is equal to t_1, the whole duration of the residual sound, and i is equal to i', as the intensity of the least audible sound will hereafter be denoted. Therefore—

$$\log_\epsilon \frac{I_1}{i'} = At_1.$$

This applied to the experiment with two, three and four pipes gives similar equations of the form

$$\log_\epsilon \frac{nI_1}{i'} = At_n,$$

where n is the number of organ-pipes in use.

By the elimination of $\frac{I_1}{i'}$ from these equations by pairing the first with each of the others,

$$A = \frac{\log_\epsilon 2}{t_2 - t_1} = 1·54,$$

$$A = \frac{\log_\epsilon 3}{t_3 - t_1} = 1·62,$$

$$A = \frac{\log_\epsilon 4}{t_4 - t_1} = 1·61,$$

$$A \text{ (average)} = 1·59,$$

where A is the ratio between the rate of decay and the average intensity at any instant.

It is possible also to determine the initial intensity, I_1, in terms of the minimum audible intensity i'.

$$\log_\epsilon \frac{I_1}{i'} = At_1,$$

$$I_1 = i' \log_\epsilon{}^{-1} A\,t_1 = i' \log_\epsilon{}^{-1}(1·59 \times 8·69) = 1,000,000\, i'.$$

With this value of the initial intensity it is possible to calculate the intensity i of the residual sound at any instant during the decay by the formula

$$\log_\epsilon I_1 - \log_\epsilon i = A\,t,$$

and the result when plotted is shown in the diagram, the unit of intensity being minimum audibility.

A practical trial early in the year had shown that it would be impossible to use this lecture-room as an auditorium, and the experiments described above, with some others, were in anticipation of changes designed to remedy the difficulty. Hair felt, in considerable quantities, was placed on the rear wall. The experiments with the four organ-pipes were then repeated and the following results were obtained :—

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* A paper by Professor Wallace C. Sabine, Harvard University.

$$\begin{array}{ll} t_1 = 3·65 & t_2 - t_1 = 0·18 \therefore A = 3·79 \\ t_2 = 3·85 & t_3 - t_1 = 0·31 \therefore A = 3·54 \\ t_3 = 3·96 & t_4 - t_1 = 0·42 \therefore A = 3·29 \\ t_4 = 4·07 & \\ & A \text{ average} = 3·54 \\ I_1 = 420{,}000\ i'. & \end{array}$$

A few nights later the apparatus was moved down to the attendant's reception-room near the main entrance—a small room, but similar in proportions to the lecture-room. Here a careful experiment extending over several nights was carried on, and it gave the following results :—

$$\begin{array}{ll} t_1 = 4·01 & t_2 - t_1 = 0·19 \therefore A = 3·65 \\ t_2 = 4·20 & t_3 - t_1 = 0·28 \therefore A = 3·90 \\ t_3 = 4·29 & t_4 - t_1 = 0·37 \therefore A = 3·75 \\ t_4 = 4·38 & \\ & A \text{ average} = 3·76 \\ I_1 = 3{,}800{,}000\ i'. & \end{array}$$

The first interest lies in an attempt to connect the rate of decay, obtained by means of the four organ-pipe experiments, with the absolute co-efficient of absorption of the walls, obtained by the experiments with the open and closed windows, and to this end recourse will be had to what shall here be called "the mean free path between reflections." The residual sound in its process of decay travels across the room from wall to wall, or ceiling, or floor, in all conceivable directions; some paths are the whole length of the room, some even longer—from one corner to the opposite, but in the main the free path between reflections is less, becoming even infinitesimally small at an angle or a corner. Between the two or three hundred reflections that occur during its audibility the residual sound establishes an average distance between reflections that depends merely on the dimensions of the room, and may be called "its mean free path."

$a = \dfrac{0·171\,V}{t_1}$ is the absorbing power of the room, measured in open window units.

Let s = surface.
V = volume.
A = rate of decay of the sound.
v = velocity of sound, 342 metres per second at 20 degs. Centigrade.
p = length of the mean free path between reflections.

Whence $\dfrac{v}{p}$ = the average number of reflections per second,

and $\dfrac{a}{s}$ being the fraction absorbed at each reflection,

then will $\dfrac{av}{sp} = A$,

and $p = \dfrac{va}{As} = \dfrac{v\,0·171\,V}{Ast_1}$, whence may be calculated the mean free path, p.

	V	A	s	t	p
Boston Public Library, lecture-room, bare	2,140	1·59	1,160	8·69	7·8
Boston Public Library, lecture-room, with felt . . .	2,140	3·54	1,160	3·65	8·5
Boston Public Library, attendant's room . . .	63·8	3·76	108	4·01	2·27

The length of the mean free path in the lecture-room, bare or draped, ought to be the same, for the felt was placed out from the wall at a distance imperceptibly small in comparison with the dimensions of the room; but 7·8 and 8·5 differ more than the experimental errors justify. Again, the attendant's room had very nearly the same relative proportions as the lecture-room (about 2 : 3 : 6), but each linear dimension reduced in the ratio 3·22 : 1. The mean free path obviously should be in the same ratio; but when the mean free path in the attendant's room, 2·27, is multiplied by 3·22, it gives 7·35, departing again from the other values 7·8 and 8·5, more than experimental errors justify. The explanation of this is to be found in the fact that the initial intensity of the sound in the rooms for the determination of t_1 was not the same, but had the values respectively 1,000,000 i', 420,000 i', and 3,800,000 i'. Since t_1 has been shown proportional to the logarithms of the initial intensities, these three numbers, 7·8, 8·5 and 7·35, may be corrected in an obvious manner, and reduced to the comparable values they would have had if the initial intensity had been the same in all three cases. The results of this reduction are 7·8, 8·0 and 8·0, a satisfactory agreement.

The length of the mean free path is, therefore, as was to be expected, proportional to the linear dimensions of the room, and such a comparison is interesting. There is no more reason, however, for comparing it with one dimension than another. Moreover, most rooms with regard to which the inquiry might be made are too irregular in shape to admit of any one actual distance being taken as standard. Thus in a semicircular room, still more in a horseshoe-shaped room such as the common theatre, it is indeterminable what should be called the breadth or what the length. On account, therefore, of the complicated nature of practical conditions one is forced to the adoption of an ideal dimension—the cube root of the volume, $V_{\frac{1}{3}}$, the length of one side of a cubical room of the same capacity. The above data give as the ratio of $\dfrac{p}{V_{\frac{1}{3}}}$ the value, 0·62.

It now becomes possible to present the subject by exact analysis and free from approximations, but before doing so it is worth while to review from this new standpoint that which has already been done.

It was obvious from the beginning, even in deducing the hyperbolic law, that some account should be taken of the reduction in the initial intensity of the sound as more and more absorbing material was brought into the room, even when the source of sound remained unchanged. Thus each succeeding value of the duration of the residual sound was less as more and more absorbing material was brought into the room, not merely because the rate of decay was greater, but also because the initial intensity was less. Had the initial intensity in some way been kept up to the same value throughout the series the resulting curve would have been an exact hyperbola. As it was, however, the curve sloped a little more rapidly on account of the additional reduction in the duration arising from the reduction in initial intensity of the sound. At the time there was no way to make allowance for this. That it was a very small error, however, is shown by the fact that the departures from the true hyperbola that were tabulated are so small.

Turning now to the parameter, k, it is evident that this also was an approximation, though a close one. In the first place, as just explained, the experimental curve of calibration sloped a little more rapidly than the true hyperbola. It follows that the nearest hyperbola fitting the actual experimental results was always of a little too small parameter. Further, k depended not merely on the uniformity of the initial intensity during the calibration of the room, but also on the absolute value of this intensity. Thus $k = a\,t_1$, and t_1 is in turn proportional to the logarithm of the initial intensity. Therefore, in order to fully define k we must adopt some standard of initial intensity. For this purpose we shall hereafter take as the standard condition in initial intensity, $I = 1{,}000{,}000\,i'$, ($I = 10^6\,i'$), where i' is the minimum audible intensity, as this is the nearest round number to the average intensity prevailing during these experiments. If, therefore, during the preceding experiments the initial intensity was above the standard, the value deduced for k would be a little high, if below standard, a little low. This variation of the parameter, k, would be slight ordinarily, for k is proportional to the logarithm, not directly to the value of the initial intensity. Slight ordinarily, but not always. Attention was first directed to its practical importance early in the whole investigation by an experiment in the dining-room of the Memorial Hall—a very large room of 17,000 cubic metres capacity. During some experiments in Sanders Theatre the organ-pipe was moved across to the dining-room and an experiment begun. The reverberation was of very short duration, although it would have been long had the initial intensity been standard, for in rooms constructed of similar materials the reverberation is approximately proportional to the cube roots of the volumes. There was no opportunity to carry the experiment further than to observe the fact that the duration was surprisingly short, for the frightened appearance of the women from the sleeping-rooms at the top of the hall put an end to the experiment. Finally, k is a function not merely of the volume, but also of the shape of the room—that is to say, of the mean free path, as has already been explained.

It was early recognised that with a constant source the average intensity of the sound in different rooms varies with variations in size and construction, and that proper allowance should be made therefor. The above results called renewed attention to this, and point the way. In the following paper the more exact analysis will be given and applied.

LIVERPOOL ARCHITECTURAL SOCIETY.

THE annual general meeting of the Liverpool Architectural Society was held on Monday evening at the Law Library, 41 Castle Street, Liverpool. Mr. E. A. Ould (president) occupied the chair, and among others present were Professor Simpson, Messrs. P. Thicknesse, W. H. Hartley, J. Dod, H. Grayson, E. P. Hinde and A. Thornley. A discussion took place on the advisability of the Society becoming incorporated. A resolution was eventually passed that the incorporation be proceeded with, and that the Council be instructed to draw up a memorandum and articles of association to be submitted to a general meeting. The report of the Council, read by Professor F. M. Simpson, showed that there were 134 members, as compared with 131 last year. The number of Fellows was 54, Associates 47, students 14 and hon. members 19. The meetings during the session had been highly successful, and the discussions that followed the papers read had been very well sustained. It was the intention of the Council to continue these papers next session. Financially, the Society was in a better position now than ever. An encouraging report of the library was also read, showing that some very useful books had been and were being added. The treasurer's report was a most satisfactory one, giving on the whole accounts a balance of 163*l.* 7*s.* 7½*d* The reports were adopted

Professor Simpson was elected president for the ensuing year. The Chairman, in stating the professor's qualifications, said that he combined academical art with ornamental grace. The following officers were then elected :—Messrs. J. Woolfall and P. C. Thicknesse, vice-presidents ; Arnold Thornley and F. E. P. Edwards, hon. secs. ; James Dod, hon. treasurer ; J. W. Blakey, hon. librarian. A council was also elected.

In his closing address Mr. E. A. Ould dealt mainly with impressions he had received during a visit to Rome. He said that he was disappointed with Rome from a beautiful and architectural point of view. Before going he had read some of the best books on Rome, but the fact was he observed people appeared to be afraid to tell the truth about this Italian capital ; they were afraid that if they did not endorse the popular view they would be considered ignorant. There was very little architecture about Rome that was worth going to see, and the place was not so picturesque as London. Still, Rome altogether was great, fascinating and absorbing. He gave a glowing account of the famous Roman buildings, but did not always view them favourably as regarded their form and beauty. Speaking of St. Peter's externally, he considered it inferior to St. Paul's, London. He advised them, however, to go to Rome, and he thought they would not be disappointed. The interest of Rome, though, was purely human, the æsthetical was merely incidental.

A hearty vote of thanks accorded to Mr. Ould for his able paper, and for his services as president during the past year, concluded the proceedings.

ART METAL-WORK.*

IT seems necessary at the outset to make some apology or explanation concerning the title of the subject we are to consider this evening—"art metal-work." The phrase is only partly mine, the word "art" being originally placed in inverted commas, which considerably modifies what is not agreeable. We do not hear of art woodwork or art stonework. Let us have art certainly, and metal-work by all means, but let each keep to its proper place, and like good neighbours they will be all the better friends. There is often in an expression of this kind, unfortunately, a modicum of truth, or a slight indication of a suggestion of a truth that justifies existence, which makes it so much the more difficult to treat. Added to this is the fact that the objectionable phrase has by custom come to convey a certain idea, which thus becomes difficult to express in any other way, and, willy nilly, one is almost bound to fall back on it.

Art work is not unfrequently "useless" as opposed to useful work, and it is more the latter than the former that I propose to speak about. The aim of all good work, call it art or what we will, is in its relation to humanity—its usefulness or uselessness, and life being short and our capabilities limited, we have to make a choice as there is hardly time to consider both sides. Quite frankly I confess that such an object as an ostrich egg in silver gilt setting with a cherub and any amount of German sixteenth-century scrolliners does not interest me at all because its influence on men and women is nil, even when placed in a glass case in a museum—therefore I do not desire to waste time in talking about it. But a piece of armour, or a drinking mug, or a coffer lock, a chalice or pastoral staff that is beautifully made is of the greatest importance, because it is a necessary part of humanity in a way and bears on human progress.

Since thinking about the matter, I have tried to remember f the ancient Greeks talked about art metal-work, or if any author since in writing about the work of those times referred to it in that way, and I do not recall any one instance. Yet, as we know, the Greeks were by no means backward. I have seen modern metal bedsteads (we shall many of us rest in such to night) with the word Birmingham writ on their brazen foreheads, that beyond doubt would be referred to as "art metal-work," and I feel no less sure of having seen (possibly only in magination) an ancient Greek bedstead of bronze of beautiful shape and workmanship that one would never dream of applying the expression to, it would be sacrilegious ; to mention art in connection with it would be to imply that there were those who were not aware of the fact, which would be insufferable. Therefore it may be concluded that the more the word art is used the less art we shall find. "Quod erat demonstrandum."

Yet we may have heart of grace, and be sure it is quite possible that a bedstead may be made even in Birmingham (though this is a hard thing to say), even made of cast-iron and brass, and if only the right person with the right mind make it, it shall be good. Birmingham is nothing, the bedstead is nothing, and the metal, rare or common, is nothing, but the mind and hand of the maker is everything. To the old sentence, "There is a time for everything," might be added, "There is a man for everything"—and to have a good result in metal or any other work it is necessary for the right person to do it under the right conditions.

To begin then at the very beginning, it occurred to me that I might find something of interest concerning metal-work in Dr. Schliemann's interesting account of his excavations in Mycenæ and ancient Troy. The work is of great antiquity, for in one place the doctor on opening a tomb makes a complaint that some gold cups must have been taken out by a despoiler—at a time anterior to B.C. 486. But the date of the work itself has been guessed at 1,500 or 1,000 B.C., which seems a fairly remote time at which to commence. It happens that most of the things he discovered are of gold, the bronze and copper things were either oxidised beyond recognition, or had been spoiled through the action of the funeral fires. With few exceptions these things are of the most beautiful design and workmanship, without any of the accuracy and precision so much looked for in these days. But the point is that these gold cups and ornaments thus buried with their late owner were the things the people lived with—of everyday use. It was the metal-work of the moment, designed and made by the artists and goldsmiths for quite practical purposes. In speaking of one gold cup which was offered as a prize in certain games, a contemporary poet spoke of it as being "untouched by fire," by which he made it clear that it was hammered metal and not cast, showing that he thought that this point was the particular one to note.

If we praise the gold-work of this very remote period, of which, naturally, not much remains, what shall we have left to say about the next period, when metal-work flourished exceedingly, and the Greeks in making the objects of everyday use reached a point in excellence of craftsmanship and beauty of design that has never been since attained? Of this period, which, roughly speaking, was about 400 B C, and in which bronze was the metal that was almost universally in use, our own British Museum has a very choice collection of examples—never much to be increased, probably, and therefore priceless. From the most delicate object to the most useful ; from the hand-mirror of the Greek beauty to the lamp, or the steelyard scale, the fire-basket or lamp-stand, all are in bronze, everything is carefully considered in design and execution. To call such work artistic, as we use the word, is inadequate. The spirit that breathes in it is too high for anything short of religious fervour—and with the exception of the earliest form of Gothic, it may be doubted if even in the history of the Christian Church the human art which thus flourished in the heathen era was ever actuated by such high promptings. If it were, one can only sadly note that the standard reached was so much lower.

Probably too little is known of the Greek people who did this work and their times for us to form an opinion as to how it was done, or the conditions that surrounded its production. A writer of the time in speaking of the celebrated shield that was made for one of the heroes, says that it was of bronze plates beaten on layers of bull's hide—a description that occurs more than once, and points to the fact that the metal-workers were skilled in using the hammer. "Well nailed" is another favourite expression, and if for nail the word rivet is substituted, a likely enough change, the beaten sheet-work is put more forcibly before us opposed to cast-work which would not require rivetting. Not that these things matter very much, as we are not now seeking to learn the secret of the work so much as to consider the spirit of it, and, if possible, to become imbued with some small portion ourselves.

That religious enthusiasm would satisfactorily account for much is probable enough, but it is remarkable that the same feeling and high standard was carried into the objects of continual domestic use—and even from a commercial point it is difficult to imagine how such objects could have been produced at a cost that made the average person able to buy them. With the bronzes of figures, busts, &c ; the case was different, because they were probably bought by the rich only as a luxury, and their cost was of less importance. As a matter of interest these latter concern us less, their sculptural qualities outweighing those of the craftsman.

The series of hand-mirrors form a subject that should be treated alone, and at length, as they have been by the archæologists who have found in the elaborate figure groups with which they are ornamented material for many volumes. But there is an interest beyond that of mythology, and we wander round looking at one and another with admiration. Like other Greek bronze-work it is not quite easy to name the exact quality that compels this admiration; only one does not find it in other work. It is not the extraordinary fineness, or the conception of subject or the shape, or indeed, any one thing; but it is the perfection of the whole—the flawlessness, the almost superhuman completeness of the work that astounds. One notices that these mirrors are of a similar size in area, perhaps equal to such a hand-glass as the women of our own day use, but the comparison stops at the point of size. In shape they are circular, and the reflecting part, which was of polished metal—now quite corroded away—was protected by a flap or cover. It was on this cover that the wealth of the Greek metal-worker's skill was lavished. Generally the decoration was by way of a figure or group of figures beaten up, sometimes on the cover itself, sometimes cut out and pinned on. The subjects chosen were from mythology, and often such as might be expected to have especial interest for women; as, for instance, Aphrodite and Eros. When not treated in relief the metal has been made flat, and the design incised in a clear and steady line that would now be the despair of one with a pencil in hand, and which shows a skill with the graver which is undeniably lost to the world. Inlay of silver and gold in the bronze, and possibly other means were used; but principally the design was by means of a graved line, or beaten in relief. Some of these mirrors had elaborate handles, and were formed to stand upright, the round mirror resting on a portion of its edge on the head of a beautiful little female figure, the whole perhaps 12 or 14 inches high.

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* A paper read before the Applied Art Section of the Society of Arts on May 8, by Mr. Nelson Dawson.

Another class of beautiful objects of this early Greek period are the bronze cistæ or boxes, of which we possess several choice specimens. It is not clear what they were used for, though it would be a domestic purpose probably. They vary in shape and proportion, and are more generally upright, having a lid and feet. The shape may have been followed as offering an even surface for the exhibition of engraved decoration on the sides, whether or no they are so adorned, and the elaborate designs of crowded figures—mythological incidents and so forth—are of much interest. The handles are often ingeniously contrived from the human figure: two nude men wrestling, for instance, finely modelled, give just the shape required to take hold of. To support the box there are in one case human feet, but more generally those of lions or animals decoratively treated.

The implements of the bath gave a chance for treatment that the craftsman could not let slip, and in consequence we have some fine strigils in the British Museum—one, especially fine, has for handles a female figure of beautiful form and modelling. So beautiful, indeed, that one wonders that it could ever have been allowed to run the risk of use by its owner.

The tall lamp-stands must have been a very noticeable feature in the Greek house, and by the care bestowed on their making they were likely enough handed on in the family as the grandfather's clock is nowadays. About 4 feet high, they generally consisted of a delicately fluted column with circular moulded top and base. This column stood on a three-way foot, often consisting of three legs of animals, or shape approximating thereto, all modelled and finished in the most beautiful manner. At the top came a three-way arrangement of branching arms, on each of which a lamp might be hung, and surmounting the whole was not infrequently a bronze figure or group about 6 inches high. One of the best in our British Museum is a charming little bronze of a Greek woman dragging her unwilling son—evidently to bed. Probably the bringing out of the family lamp was the signal for the younger members to retire.

There is much more that we ought in duty to notice, but we certainly must not omit the very beautiful specimens of Greek armour. Being a fighting nation armour must have formed a very valuable asset in the property of each man, or of the nation at large. But to think of an army clothed in metal-work of such wonderful make as we see in the British Museum is hardly credible. The idea of the armourer seems to have been to make a thin plate of metal that should fit closely and follow the entire contour. It really seems as if even in the important point of armour, where safety and protection are everything, the love of sculptural form came first, joy of metal-work next, and finally, and more or less casually, they remembered that it was a piece of armour.

Thus a greave for the leg fitted on and protected the leg between ankle and knee. It was a plate of thin bronze beaten into a shape, not after the manner of Mediæval leg pieces, but following the muscular contour of the limb, it protected, not in the imitative way in which we should feel compelled to do it, but choosing, selecting, refining the modelling until it became what only antique Greek modelling could become. So, with the large pieces protecting the front and back of the body, each was treated in a sculptural way that is amazing.

Of helmets there are several fine specimens, mostly of that conventional type that Athené is always represented with—having nose and cheek guards. It seems, on consideration, to be a much more perfect form for its purpose than the Italian Mediæval helmet, which was more complicated, and as a form or convention, like so much other Greek work, it impresses one as being the climax. There could be no better thing made on the same lines.

Of weapons of attack and defence there are but few. The blades of the swords, being often of iron, have naturally disappeared into little more than a blurred outline, though that suffices to give one an idea of their general shape.

One other phase of Greek metal-work claims attention, and that is the coins, especially of about the fourth to the second century, B.C. The series cover a time from the earliest days when a little drop of gold, without design, was used; then a stamp of elementary form was made, this developing under the care of the sculptors until the coinage of the different republics, which I imagine every Greek city of importance to have been, reached far above the highest point that the rest of the world have ever attained to. As metal-work they came distinctly under the head of sculpture; the metal-worker having but little hand in them, they were modelled in the first instance and then either moulds made for casting or dies for stamping. But here, as before, all thought of workmanship or authorship is lost in the all-engrossing appreciation of their extreme beauty.

In the consideration of the ancient Greek metal-work and other art generally one is conscious of having before one a phase beginning and ending—complete in itself. That it was a development from elsewhere we know, that it merged into that of other nations later we know, but neither of these affect the fact of our sense of completeness. It is unnecessary to copy to-day the mythological figure subjects, or the armour, or feminine wearing ornaments or anything else, but the work stands as a great and abiding monument to a wonderful people. On the whole one feels that they were a peaceful nation of smooth nature, of great refinement, while they had been unusually favoured in the qualities in their character that made for feeling and poetry and craftsmanship. Such a phase will never probably occur in exactly the same way again, but it is no small thing for metal-workers to consider how much it may rest with them and their work to make or mark an epoch.

In the period following the one already glanced at it is less easy to find material, though not easy to say why. If we referred to the other as the Greek period, we may with equal reason call this the Roman period of the world's history—although in both cases there were other phases of art concurrent with them. Finding so much to consider in the Greek period, the following one suffers by contrast possibly, or it may be that it requires more closely looking into. But, at all events, one does not feel able to find much metal-work material. There is, however, some really fine Roman silver-work—dishes, cups, platters, &c.—that are not so noticeable for their shape, which is not much out of the ordinary, as for the way in which the decoration has been added. In one case a circular dish, having the centre plain and a border of 1 inch wide, has a design of animals embossed and slightly outlined with a tool on the face side in a skilful manner. This is more particularly referred to, because the method of decoration seems especially suitable to silver, and it has the added merit of being only possible to a worker of talent, the freedom of outline, sense of modelling and the drawing generally requiring to be touched in with precision and knowledge.

The same method of work is to be seen on a larger scale in the beautiful English sugar-bowls of the seventeenth century in the Victoria and Albert Museum.

In other objects in metal the Romans were fond of inlaying fine silver patterns in bronze and also niello-work. But it was in architecture that the Romans were chiefly interested—they were great builders. And architecture, being the mother of all the arts, it is not remarkable that their enthusiasm was absorbed before it reached such a minor art as metal-work is supposed to be, except in so much as it was required for the purposes of their building, ornamental or otherwise, and it seems likely that owing to Classical architecture requiring so little assistance from metal-work there was much less done in consequence. What was done was principally in bronze—that metal being more in accord with classical feeling. It is difficult to imagine a pair of strap-iron hinges, such as were so freely used in the later Gothic period, on the heavily-panelled doors of one of the Roman temples; one can see there nothing but bronze hinges, or, even less than that, a pin of solid bronze at top and bottom of the door working in stone sockets.

Thus the metal-work would be entirely concealed and of no account whatever. Inside the temples were doubtless bronze tripods and other objects which were required for religious purposes, but these things hardly appear to have received the thought and care that was bestowed on the stone or woodwork.

At the end of the time of the Greeks the Romans, being then a young and vigorous people, overcame them, and carrying off their best artists to Rome, trusted there to found a school of art that should continue and rival what had gone before. We see now that the method adopted was fatal to a separate artistic existence. The Romans did, however, secure an important development, and in a measure completed the severe and thoughtful work of earlier times. In a smaller way perpendicular work of our own country was to thirteenth-century Gothic what Roman classic was to Greek classic.

The next step, passing quickly from the classical work to the Gothic, was a great leap and one that affects metal-work very much. We shall not follow it closely here, though it would be interesting enough. The two phases seem to be so widely opposed that it is not easy to see how the Gothic could follow on the heels of the Classic in so short a space of time, a century or two only elapsing between the ending of the one and the commencement of the other. It has always appeared to me, without going deeply into the question, that it was only owing to the interruption of Byzantine art that there is any relation at all, and that otherwise and without it there would have needed a perfect revolution or casting off of all previous ideas in passing from heathen to Christian art. As it was, the Byzantine merging process allowed of a smoother transition, much of the old state of things being retained and added to the new.

As a people the Byzantines seemed less concerned with architecture and building than the decoration and beautifying of buildings, and thus perhaps is accounted for a revival in what is called for convenience the minor arts, and amongst them metal-work. In Byzantium was founded that part of the Christian Church known as the Greek Church, which with a gorgeous ritual and pompous ceremonial still exists, and which if no other cause had arisen would have served as a great incentive to the production of metal-work. Altar vessels in gold and silver reliquaries, rich jewels for the priests and processional crosses formed a field for the metal-worker, and laid the foundation of a class of ecclesiastical work that was in demand until the later Middle Ages. From the early Greek Church of Byzantine times to the Reformation in this country the Church was one of the great patrons of our craft, and the museums are full of the fine examples that were the result of this encouragement. It is strange that the Greek Church, which has spread comparatively little, has not progressed in such matters, although it still follows the ritual, and has the same love of detail and ornament. Consequently the work is still on strictly primitive lines. However, progress was to be made, and as Byzantine influences came westward, and finding first a home in Italy, grew into the beautiful early Gothic form that later, and when more developed, was to give such encouragement to metal-work. From Byzantium to Italy, omitting Rome, where classical feeling was too strong for any other form to get much footing, from Italy still westward to France and England the wave of Gothic spread, growing and developing into varying styles until all the then civilised world was affected. From the severe and simple forms of what we find in Italy, it grew into the gorgeous work that was done in France in the twelfth and thirteenth centuries, and about the same time in England.

I am not sure how far Gothic architecture in Italy was associated with the enlarged use of forged ironwork, but in France and England the two things came at the same time. Notably in the hinges to the church doors, of which those on the great doors of Notre-Dame, in Paris, are probably the richest examples in the world. So rich that they suggest an imitation in this hard material of the wealth of ornament that overlaid the walls of the Christian mosques of Byzantium, and that in carved stonework covered the later Roman buildings.

Hinges which grew from the plain knuckle to an iron band, clamping together the thick slabs of oak which formed the door, grew very elaborate as time advanced, and when carpentry had improved, and the iron bands were no longer necessary, they were retained as ornaments. At the outset plain—later to become very elaborate and ornamental, finally, in late Gothic times in our country becoming quite plain bands again—hinges themselves offer a very good field of study and are an index of the varying phases of Gothic ironwork.

Besides ecclesiastical, other influences were at work on behalf of the metal-workers' craft—there were countries to be won and much fighting to be done. The age of chivalry was at the time of our Norman Conquest in the pride of youth and rapidly developing. Up to that time much had been done in the way of fine workmanship in swords and weapons, but that was of small account compared with the sheath-armour period that was to follow. At the time of the Conquest the principal part of armour was chain mail, either alone or over leather. A surtout from throat to knee of chain, a trusty helmet and shield, was what was chiefly relied on, but this rapidly passed into the form of plate armour wonderfully shaped and made.

In considering the Mediæval armour period, which, as far as the worker in iron is concerned, has offered more scope than any other, it is perhaps the Italian work that claims most attention. If the mantle of Greek art fell upon any people it must have been on the early Italians, for until they dropped into evil ways and their imagination ran riot in the time of the Later Renaissance, they led the world in matters of refinement of taste and craftsmanship. We admired in the Greek armour the wonderful way in which the armourer had, while basing his design on the human form, yet conventionalised it and adapted it to his purpose. With the Italian armour the human form was entirely ignored except as to a few leading lines. So far from the armourer thinking about the figure, it is obvious that he decided at the outset that he should consider the metal alone, producing from it the best defence to the body, and that point settled, making it as beautiful as might be. The protection against weapons was to consist of plates of metal—large when convenient and small and jointed where movement was wanted, that should cover the whole of the front of the body, and it was the great joy of the craftsman to suit his design to this purpose. We should remember that the metal-worker had no nicely-rolled sheets of even thickness to work from. He had a lump of iron which had to be first forged flat and thin and afterwards to be shaped, and if one realises this, the difficulties are increased enormously.

The main thing that strikes one in Italian armour is its beautiful shape. Not only is a suit of armour beautiful in itself, but each part considered separately is no less so a most valuable quality. In the later period the metal-workers lost sight of this prime necessity, and hastening over the shape without sufficient thought, gave all their attention to enriching the surface. The result is that in all collections of armour there are some, as in the late exhibition at the Burlington Fine Arts Club, there was a helmet, Italian, sixteenth century (?), embossed, and enscrolled, and bedizened with gold veneer till one's eye ached with looking at it, and all to adorn something that was ill-considered at the outset. I have always been much impressed with the fact that the shape is of far more importance than the surface decoration. If a thing is of bad shape no amount of adornment will improve it—the finest suit of clothes will not hide the deformed body.

The English Mediæval armourers did not so adorn their armour, and often the surface effect of the wrought metal is far finer than the overlaid Italian work. That this super-adornment demanded clever workmanship is of course patent—the men who beat up these elaborate figure-subjects were doubtless men of considerable artistic training. Those who made the pistols with the intricate wheel-lock, and the wonderful rapiers and daggers were all men of great appreciation and much skill; at the same time they were often misled, their enthusiasm and the fashion of the times betrayed them from the paths of simplicity and severity which are ever those of the best work. The small and select exhibition at the Burlington Fine Arts Club was a most valuable object-lesson to the metal-worker to be sparing with ornament, and to teach him that, provided the shape is entirely suited to the purpose, and is of beautiful form, nothing further in the way of ornament is needed. In that exhibition the eye and brain wearied with the elaborate figure compositions, and came to rest on a plain English helmet, absolutely devoid of ornament but of fine outline, with the greatest possible relief and gratification.

English Mediæval armour one should go to the Tower to see. There is much to be learnt in the way of metal-work from it, and as in the other case, one wonders at the skill of the old craftsmen, a race now dead and completely passed away. Here we find that utility is almost the only consideration, and so far from having to make a criticism similar to the case of the Italian work, one feels at times that every other quality except utility has been omitted, with a result that there is often a little absence of beauty—a lack of perception of line which causes a feeling of disappointment. In short, without knowing very much about armour, one can often detect English work by a slight tendency to clumsiness. The lesson to be learnt is that we should avoid the danger on both hands and steer a middle course. One of William Blake's original proverbs was "Enough or too much," a self-evident truth that affords much scope for reflection.

It seems from the metal-worker's point of view that the end of the Mediæval period concludes the important phases of metal-work that occurred in the world's history, but in our own country there were one or two lesser phases that are of no little interest. One of these was the English silver-work of the seventeenth and eighteenth centuries, which now we are able to look back on it as a whole we can see was characteristic and individual. While speaking of the Roman silver-work I mentioned an English silver sugar basin in the Victoria and Albert Museum—there are one or two there of varying design and workmanship. Beaten up by hammer they have a not elaborate shape—with lid and cast handles. The plain surface of the sides is broken up admirably in one case by a design of poppies—rendered in a way that is entirely suitable to the metal. The date is about 1650. There is much other silver-work, the earlier as a rule the plainer it is, and therefore the more to be admired. In the middle of the eighteenth century we were, like other nations, under the pseudo-Classic influence, and the fashion ranged between the delicate modellings of the Adams to the coarse acanthus leaves and fluting of the worst time of the Georges. Here, again, is an example of how fashion or phase operates on an art or craft. In the more delicate mouldings used at the Adams time, casting was the only way to reproduce them—they were cast solid and then minutely chased. On the other hand, the bold acanthus leaves were better rendered by bumping up in sheet from the back and then finishing from the front; and these two branches of metal-work, although one would hardly think it, would require quite different workmen, the one branch of work being so opposed to the other. In speaking of English silver, one cannot pass by the delightful tea and coffee sets that were so much in fashion at the latter part of the last century. These were known as boat-shaped, were of simple form and rarely ornamented with anything more than bands of lines. They were very English in feeling, and I much doubt if the shapes were not confined to our country; there is, at all events, something in their bearing that makes them dear to English people, and they are admirable pieces of metal-work.

There was besides this, silver-work in our country during the last two centuries a very interesting and creditable phase of forged ironwork which resulted in many objects of domestic use—trivets, fire-dogs and backs, fire-irons, &c.—and on a larger scale the railings in front of houses and surrounding gardens, of which we shall see some photographs on the screen.

It must not be thought that it was in England only that such work was going on—this is referred to as being characteristic and worthy of note. Spain was rich in metal-workers also, and some very fine and costly ironwork was produced there. In France, too, there was much metal-work being done, and in each case it is marked with the character of its time and country.

One ought not to omit Germany, where smithing and much other metal-work flourished, although, as a rule, German metal-work lacks that simplicity that one admires in other work.

Now, as to our own time, what shall we say about it? We have been critical enough respecting past times and people, and the mote in their eye, but what about our own metal-work and our own eye? The things we surround ourselves in our homes with, the grates and fenders, and fittings on doors, and gas chandeliers, and electric-light fittings, our knives, forks and spoons—will they ever be found in a museum, or will they be referred to lovingly before learned societies, as is now the case in regard to the ancient works? The jewellery we wear, and which we see in the goldsmiths' shops—our Crown jewels and regalia—the orders in gold and enamel that our nobles wear on State occasions—what can one say about all these things? I should like to be as kind to ourselves as possible, but I feel unable to speak in their favour

And yet we might have good metal-work; there are our iron bedsteads, and a hundred other objects that are open to good treatment, without being made too costly. The list would be a long one if we went through everything that we have around us that the metal-worker might improve. The truth is, no list should be needed. The corrective should not be in the shape of by-laws and rules so much as a clean and wholesome desire springing up in the minds of the people at large for something better. There have been some signs of the grey before dawn latterly, and the keener appreciation of old furniture, for instance, is a sign of the right state of mind. This in time should become an appreciation of good work generally, and I should like to think of metal-work in particular.

As I say, it would be idle to specify what things might be improved with advantage in metal-work, but it is not unreasonable to think that there may be a time to come when the hand and brain of the individual craftsman shall not be of less concern than a good gas-engine, and when people will value work with personal thought and care in it.

A line in one of the Psalms struck me with much force recently—it seemed to be so very apposite, whatever meaning the writer meant originally to attach to it—

> "The work of our hands—establish Thou it."

A Select Committee of the House of Lords, presided over by Lord Brougham, have sanctioned the proposal of the South-Eastern and Chatham and Dover Companies for the extension of Charing Cross station. Application on behalf of the owners of the Avenue Theatre for extra compensation on the basis of an existing settlement under trustees was declined. The proposal of the Strand Vestry to extend the footway over the Thames up to the Strand was met by arrangement.

GUILDFORD AND COMPTON.*

GUILDFORD, the county town of Surrey, famous for its churches, charities and castle, is clean, quiet and hilly, and its people boast of great respectability.

King John kept his Easter revels here in 1199, and an extraordinary Christmas in 1201. Henry III., Queen Eleanor, Edward II. and III., the latter especially, the Christmases of 1337, 1340 and 1347, also Edward IV. and Henry VIII. The first Charter was granted to the Corporation in 1267. The Mayor's ebony staff was presented by Queen Elizabeth, a silver top bearing the following:—"Feare God: Doe Justice: Love thy Brother." The "lions" of Guildford having been dealt with in previous papers, precludes further mention of either castle, church or town, save to say that the old bridge, after standing centuries, was destroyed in rather a peculiar manner this year. During a heavy rain the swollen waters of the Wey carried away a quantity of timber from up-stream; this jammed under the bridge, swelled and heaved the solid masonry in all directions from the bridge. We walk along the river bank, the hills surrounding it being in perfect freshness of spring foliage, until we reach the foot of the sandhill, on which stands the ruins of the ancient church of St. Catherine; though not so old as its sister of St. Martha on the neighbouring hill, it is far more picturesque.

Ruined and roofless though it be, denuded of its once fine tracery, with crumbling buttresses at side, and its aisles wrecked, the gaunt old walls stand out and recall to one's mind the days and customs now long since vanished, when the Canterbury pilgrims used this and many others as shrines, for this church stands in the "Pilgrim's Way."

From Farnham, in Hampshire, to Titsey, on the Kentish borders, runs the Surrey portion of the so-called "Way," forty miles in length. The track or path was always about half-way down the side of the hills, and invariably on the southern face, and this now wild and overgrown path dates further back than the seven centuries, or say rather than the year 1170, when four knights set out to murder Thomas à Becket in the cathedral of Canterbury, for this had been a trunk road from Sandwich, in Kent, to Cornwall's tin producing country, traversed by those merchants and traders of Rome, and, as evidence of this, lumps of tin have been found close to the old road

Pilgrimages were both popular and profitable to the clergy and laity; along the route sprang up chapels, such as St. Martha's, St. Catherine's and many others at which the faithful could pray and give Fairs were held at fixed dates under a paid license, and large bodies of pilgrims were always to be found at them.

No one will now contend that all these pilgrims went on purely pious motives, nor that they were by any means an orderly crowd. They were not; they were all composed of a large proportion of noisy, quarrelsome, disorderly and immoral persons of both sexes, and deadly disease was rife amongst them. Lepers' windows are to be found in the churches now standing all along the route, also hospitals, records of which still exist—instance the old plague-house for pilgrims at Cidersham. The path was always marked by yew trees; these can always be known, as they are much older than others in the county. And now for Loseley, up a road where the trees nearly meet, past the new mansion of Lord Sligo, through a gate and over some fields, and we are in the park; on past the lake to the mansion, the residence of Mr. W. Moor Molyneux, which is a landmark in English history, having been in the same family since the time of the Conqueror, taking both male and female line of descent.

Domesday Book quotes Roger Montgomery held it, but his son Roger forfeited it to the Earl of Gloucester. It was purchased by Sir William More in the time of Henry VIII.

Queen Elizabeth slept here in 1577, 1583, 1591.

In 1692 Margaret, only surviving daughter and heiress, married Sir Thomas Molyneux, of Haughton, Lancashire, from whom the present proprietor came.

In the muniment-room an enormous collection of autograph signatures, royal warrants and letters from leading statesmen so far back as the Tudor and Stuart periods still remain well preserved, and many of the manuscripts have been printed.

The grand old hall was built 1562, and the handsome moulded ceiling of the drawing-room is a very fine piece of work; here is also a cornice with the inscription—

> Morus tarde Moriens
> Morum cito moriturum,

being a rebus of the More family.

There is a carved chalk chimneypiece with the arms of the More family. In this room are two small gilt chairs, the cushions of which, tradition says, were embroidered by Queen Elizabeth.

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* A paper by Mr. Charles Wheeler, read at the visit of the members of the Upper Norwood Athenæum.

From the hall the principal staircase conducts to the apartments styled the king's and queen's bedchambers, the walls of which have some fine tapestry. King James slept here 1606, Prince Charles 1617. Pictures there are of Queen Anne Boleyn, by Holbein; Sir Thos. More, the Lord Chancellor; Sir W. More and wife, Sir Poyning More and Sir Thos. Molyneux, who married one of the co-heiresses of the Mores; Elizabeth, her sister, who died unmarried; and lastly, Sir More Molyneux. In one end on the staircase is a large allegorical picture of honourable and virtuous life, at the other, vice and depravity.

We now leave the ancestral mansion of the Mores and Molyneux, continue our ramble across the path, pass out at the lodge gate, down a country lane, and emerge on the green of Compton, the village of the same name being some little distance further on, in which in the centre stands one of the most curious churches in the county. Of the twenty-five parishes in England which bear the name of Compton not one can compare with Compton in Surrey in simple rural beauty, with an antiquity so great that a church was here in Saxon times.

Domesday Book says:—In Godelming's hundred Walter Fitz-Other holds Contone, of King Edward. There is a church valued at 8*l*., then 6*l*., now 9*l*.

The register dates from 1639. The churchwardens' book, "19 daye of Marche, A.D. 1570."

A chancel with a vaulted roof, plain stone ribs, very low pitched, covers the sanctuary, and is pointed by a Norman arch with small pillars. We then go to a staircase on the south side, and outside the chancel is a chapel. On the same side there is also a piscina, an aumbrey and a lepers' window. In the chapel above this is a piscina, also hagioscope, chancel, and above the sanctuary is a screen of dark oak.

There are two tombs in the north aisle and one brass in the mid aisle.

The key is a very fine one.

Next in order comes the chapel attached to the new burial-ground at Compton, a work due largely to Mrs. George Frederick Watts, who in her publication, called "The Word in the Pattern," says:—"Built to the living memory of all who find rest near its walls and for the comfort and help of those for whom the sorrow of separation yet remains." The story, as told on its walls, is that of the spiritual life, on the wing of which, in the passage between the mystery of birth and the mystery of death, material life is lifted to the glorious consciousness of its affinity with the infinite.

I will take one instance only to convey to you an idea of how these terra-cotta allegories are worked out, that of the servants of truth, liberty, justice, unity and law: the law of the universe; the old Scandinavian symbol of the boat, the sun and the moon; unity of the universe; the shell; justice, with its balances; liberty; the flying fish, free in both air and sea. The book is so interesting with its plates that it is difficult to extract any particular part more suitable than the above. The building was designed by Mrs. Watts, and the whole of the work, brick, terra-cotta, wood and iron carried out by the villagers, and throughout its whole is symbolical and allegorical; even into the iron hinges is wrought an old symbol, beautiful if translated by its accepted meaning in symbolism, the sail, as the breath of life, with the T (tau) cross for the mast. The cross for the mast, the cross of faith and key of eternal life, another link in the great chain of aspiration, forged only of those little concrete signs, but stretching down, far down, the ages from human heart to human heart for its comforting, strengthening and uplifting Godward.

We now leave Compton and its rural charms, ascend the Hog's Back and having gained the summit obtain a view that for natural beauty is unsurpassed in the United Kingdom.

ARCHITECTURAL CONGRESS.

An architectural congress will be held in London during the week beginning June 18 under the patronage and management of a committee consisting of presidents of the Institute and provincial architectural societies. All architects and persons interested in architecture are invited to attend the congress and to take part in the discussions on the papers read. A card of admission to meetings will be sent to any non-member of the Royal Institute on application to the secretary. The meetings will be held in the meeting-room of the Institute. Admission to each visit will be by separate ticket, and all visiting tickets must be specially applied for.

PROVISIONAL PROGRAMME.

Monday, June 18, 8 P.M.—Reception by the President R.I.B.A. in the meeting room of the Institute, 9 Conduit Street, W. 8.30 P.M (first meeting).—Presentation of the Royal gold medal. Owing to the unavoidable absence of the recipient, the Commendatore Rodolfo Lanciani, Professor of Roman Topography in the University of Rome, the medal will be received on his behalf by one of the secretaries of the Italian Embassy.

Tuesday, 3 P M. (second meeting).—Paper: "The Official Control of Public Buildings," by the President R.I.B.A. 8.30 P.M.—Conversazione at Guildhall.

Wednesday, 11 A.M. (third meeting).—Papers: "The Collaboration of the Architect, the Painter and the Sculptor," by Mr. E. W. Mountford, Sir Wm. Richmond, K.C B., R.A., and Mr. Roscoe Mullins. 3 P.M.—Visit to be arranged. 8 P.M. (fourth meeting).—Paper: "The Ideal City, Streets and Bridges, Public Monuments, Public Gardens and Open Spaces," by Mr. Halsey Ricardo; the Right Hon. the Earl of Meath.

Thursday, 12.30 P.M.—Visit to be arranged. 3 P.M.—Visits to Stafford House and other large houses. 8 P.M. (fifth meeting).—Paper: "The Education of the Public in Architecture," by Reginald Blomfield.

Friday, 11 A M. (sixth meeting). Business meeting—Paper: "Uniform By-laws," by Lacy W. Ridge. Charles Hadfield, Sheffield, and A. E. Sawday, Leicester, to move the following resolutions:—1. That in the interests of architecture it is inexpedient that buildings of a municipal character be designed and erected by engineers or surveyors having no architectural training. 2. That as a matter of sound finance and in the interests of ratepayers, it is desirable that the duties of the borough engineer and surveyor should not include work of an architectural character. 3. That it is detrimental to the interests of the architectural profession that buildings of a municipal character should be designed and erected by the borough engineer and surveyor. 3 P.M.—Visits to Messrs. Jas Powell & Sons' Glass Works, Whitefriars, E.C., and Messrs. Holloway Bros.' Works, Westminster. 7.30 P.M.—R.I.B.A. annual dinner, Whitehall Rooms, Hôtel Métropole.

Saturday.—Visit to Greenwich.

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

The War Office and James Stiff & Sons.

SIR,—On Saturday, 12th inst., a statement appeared in the *Times* newspaper to the effect that we had been removed from the list of contractors to the War Office for offences under the Corrupt Practices Act.

We enclose a copy of a paragraph which appeared in the *Times* on Friday, 18th inst., contradicting their former incorrect report:—

"WAR OFFICE CONTRACTS.

"In reference to the report of the proceedings of the select committee on War Office contracts which appeared in our issue of the 12th inst. we are requested by Messrs. Stiff & Son to state that they were not struck off the list of War Office contractors for offences under the Corrupt Practices Act. The evidence appears to show that a young member of the firm went to Woolwich and looked at some stores that were under inspection and had been rejected. In the course of his visit he offered small gratuities to the foreman and viewer, which, he said, he did for assistance they rendered him, and in ignorance, as he thought it was in the ordinary course of business, when people had done a service, to give them a little remuneration. The witness, Mr. Major, who was under examination, stated this act was held to be sufficient to justify a suspension, but it was only a suspension for twelve months, because it was known that Messrs Stiff & Son were a very respectable firm who had done a great deal of good work. We regret any injustice we may have done Messrs. Stiff & Son."

We may add that out of nearly 7,000*l*. worth of work executed for the War Office during the last six months, less than 10*l*. worth has been rejected, these small rejections being partly due to damage sustained by the goods in transit from our works to Woolwich.

A few articles were, however, rejected, principally because the weight and size were not quite correct. These articles formed the first delivery on account of contracts now in hand, and our representative spent nearly an hour at Woolwich in ascertaining very accurately the exact requirements of the War Office.

On leaving he innocently offered the foreman and workman who had assisted him small gratuities.

The War Office have a stringent rule that no employé of theirs is to receive a gratuity on any account whatever, and to mark their displeasure at this breach of their rules, they have suspended us from their list of contractors for one year.

In view of the partial and incorrect accounts which have appeared in various papers, we venture to ask you to insert this complete statement of the facts.—We are, Sir, yours faithfully, Jas. Stiff & Sons.

The Bridge Accident at the Paris Exhibition.

Sir,—An impression appears to be gaining ground that the metal used in the construction of the bridge which recently collapsed at the Paris Exhibition was "Expanded Metal." We shall be much obliged if you will afford us the opportunity of stating that no "Expanded Metal" was used in the construction of that bridge, and the structure was not erected on our system. This will be seen from an article that appears in the *Builder* and *La Revue Technique* this week, in which it is stated that light metal rods were inserted in the concrete. As the impression created by the descriptions published in the daily press is likely to do harm to this company, we shall be obliged if you will insert this letter.—Yours faithfully,

The Expanded Metal Company, Limited.
Gilbert Davenport, Secretary.

39 Upper Thames Street, London, E.C. :
May 17, 1900.

[The article in *The Architect* of May 4 on this subject will fully prove the justice of Mr. Davenport's contention.—Ed.]

London Street Paving.

Sir,—Mr. D. J. Ross, the City engineer, has submitted a report to the Corporation on the subject of the comparative durability of wood and asphalte pavings, and has given his opinion that asphalte laid down in streets where there is heavy traffic has stood for terms varying from seventeen to thirty years, while wood paving only stands about seven years. I have been studying the various materials and systems of street paving ever since asphalte and wood have been introduced in London, and find Mr. Ross has entirely ignored the cost of patching up the asphalte during the periods he mentions. I also find that the cost of repairing, including the first cost of laying the asphalte, probably amounts to more than it would cost to pave a roadway with wood three times. So that ultimately there is very little difference in cost between the two materials. As a paving for a town such as London, there is no doubt that wood has many great advantages over asphalte, insomuch as it is a warmer and more genial material, less noisy and not so slippery.

Of course wood paving has many disadvantages at present on account of the imperfect systems under which the blocks are laid, as after a short time it goes into holes and the street becomes very uneven, and through this unevenness wears out much quicker. Also the concrete beneath prevents the water and other impurities from running into the ground, and it becomes stagnant under the wood, the effect of this being to rot the blocks; and, in addition, the odour after rain or a summer shower is very unpleasant. All these imperfections have now been overcome by a new invention called Jetley's patent wood structure. This ingenious invention will alter the entire wood paving system, and I am convinced will settle this most difficult question. Under this system the wood blocks are compressed and combined very powerfully together by machinery, and in such a manner that no block can afterwards move, and it is brought ready made to the street which is to be laid in slabs 4 feet 6 inches long by 12 inches wide, and when the roadway is completed it forms an homogeneous structure from curb to curb, so powerful that no block can move, and consequently will remain perfectly level.

The blocks are laid without any concrete foundation under; therefore all water and impurities can run through into the ground. The roadway when worn down by fair wear and tear can, with very little cost in time and labour, be turned over, and the slabs will present a level surface, and the roadway is practically renewed, and will last the same number of years. Another advantage is that by laying the roadway with this structure it takes only as many days as weeks are now required under the present system. This in itself is a great consideration, great annoyance being continually caused by the traffic being blocked for such long periods as it is now. Carlos Place, in Grosvenor Square, was the first trial given this paving. It has now been laid going on for three years; there is no concrete foundation under it, and it is as level as if laid yesterday. But even since then great improvements have been made in the pavement, and I have no doubt that very shortly it will be universally adopted.—I am, dear sir, yours faithfully,

Frank A. Whitson.

259 High Road, Leyton, Essex :
May 21, 1900.

Disfigurement of Provincial Streets.

Sir,—Might I be allowed to take up a small amount of your valuable space to raise an emphatic protest against the disfigurement of our streets in the leading towns of our country? Liverpool streets (as is the case with all provincial towns more or less) contain some specimens of architectural beauty, but the whole effect is ruined by the hideous nightmare of poles and wires for the electric trams. I notice that Manchester and Birmingham are about to follow Liverpool's bad example. May London be spared. Another and far more serious point is that in many cases the streets are not sufficiently wide. Take, for example, Renshaw Street, Liverpool; it is positively dangerous. If you desire to call in the street, your carriage, cab or cart has to shift round the first corner; in some places the cars pass within about 20 inches of the pavement. The writer himself, talking to a friend, stepped off the kerb to escape a workman with a ladder and was pulled back in time to miss being crushed by the passing car. Is there no regulation by the Board of Trade as to the distance between car and pavement? Cannot the wires be placed underground? Trusting that you will pardon my taking up your space.—I am yours, &c.,

R. J. S.

Chester: May 23, 1900.

GENERAL.

Sir L. Alma-Tadema will open to-morrow (Saturday) the annual Southwark and Lambeth Free Picture Exhibition, which will be held at the Borough Polytechnic Institute.

M. Hippolyte Supuy, curator of the artistic collections belonging to the city of Paris, and for some time member of the Municipal Council, died a few days ago.

The Eighty-sixth Exhibition of Pictures by British and Foreign Artists, held at the French Gallery, was opened on Monday last.

Lord Masham yesterday laid the foundation-stone of the Cartwright Memorial Hall in Manningham Park, Bradford, which is to be erected from the designs of Messrs. Simpson & Allen, of London. The original estimate which was prepared a year ago was 37,073*l.*, but owing to advance in prices the cost will be about 55,000*l.* The greater part of the money will be provided by Lord Masham.

Excavations have been commenced at the ancient church near Sockburn Hall, where lived Sir John Conyers, the legendary hero who killed the great "worm" or dragon which devastated the district.

The London County Council have accepted the tender of Messrs. Mowlem & Co. to construct for 92,680*l.* two additional outfall sewers between the Abbey Mills pumping station and the Barking outfall.

Mr. F. Richardson has been appointed assistant surveyor of Aston, at a salary of 100*l.* a year. The vacancy was created by the promotion of Mr. Jack, on the appointment of Mr. H. Richardson to the surveyorship of Handsworth. Mr. F. Richardson is a brother of Mr. H. Richardson.

Mr. Percy Robinson, of Leeds, has been appointed architect for the new Mission Church in the Cardigan Fields district of the city.

Miss Mamie Hale, of Columbia, has been selected as the architect by the board of managers for the State asylum, Kansas, and will have entire charge of the important work from the beginning to its completion.

Professor Despradelle, of the Massachusetts Institute of Technology, has been granted a first medal by the jury of the Paris Salon for his design of a monument "dedicated to the glory of the American nation."

M. Ravaisson Mollien, the eminent French archæologist, passed away at Paris last week. He was appointed curator of antiquities at the Louvre in 1870.

The British Pavilion in the Rue des Nations at the Paris Exhibition was opened officially by the French President on Wednesday.

The Keighley Municipal Council have applied for powers to borrow 45,000*l.* for purposes of electric lighting, 10,300*l.* for municipal offices and 8,565*l.* for street improvements. There is no opposition.

The first experiment of the Brighton Town Council in building houses for artisans has so far progressed that it is announced that the first block of houses will be ready for occupation on quarter day. The rent will be 7*s.* 6*d.* a week.

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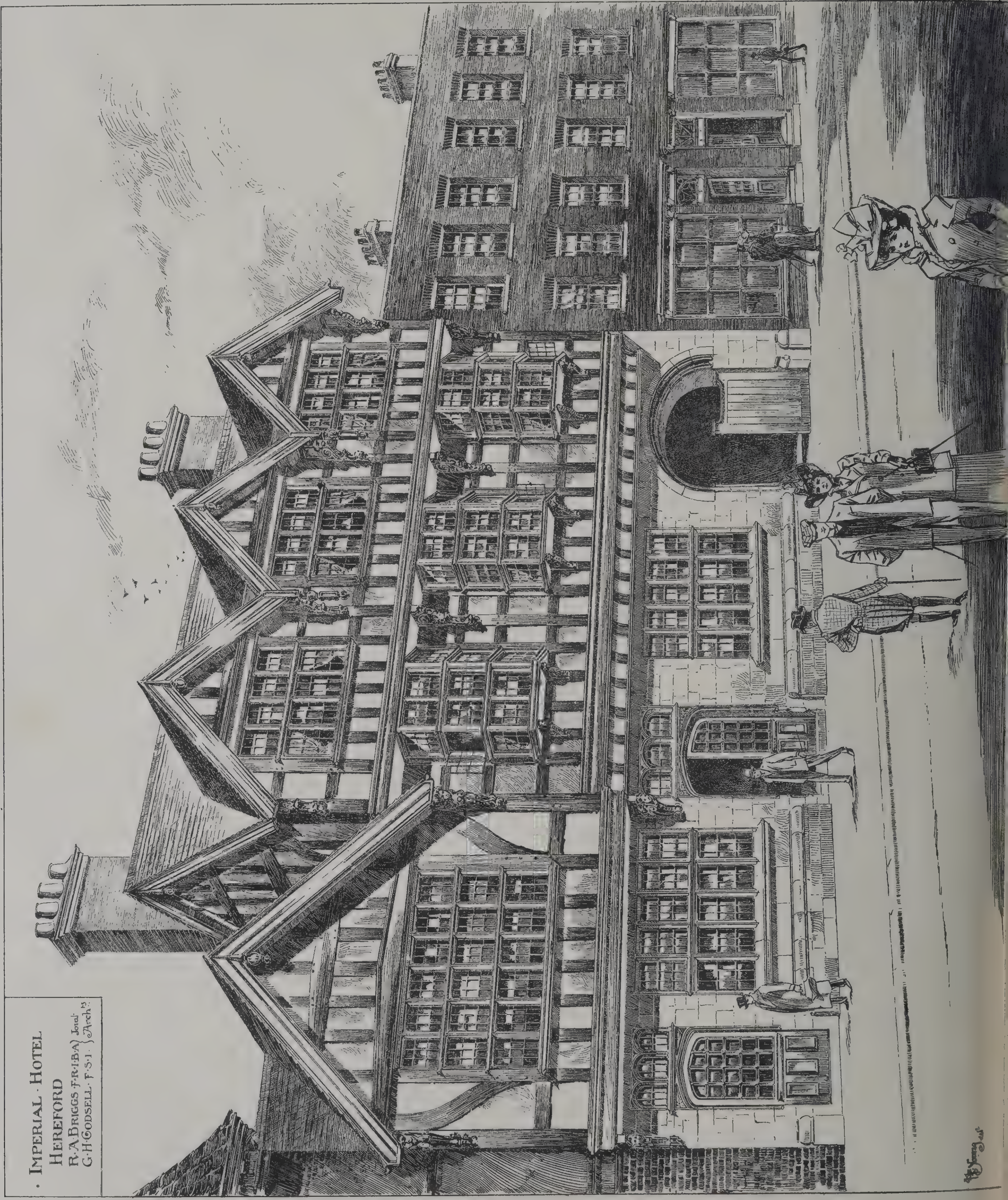

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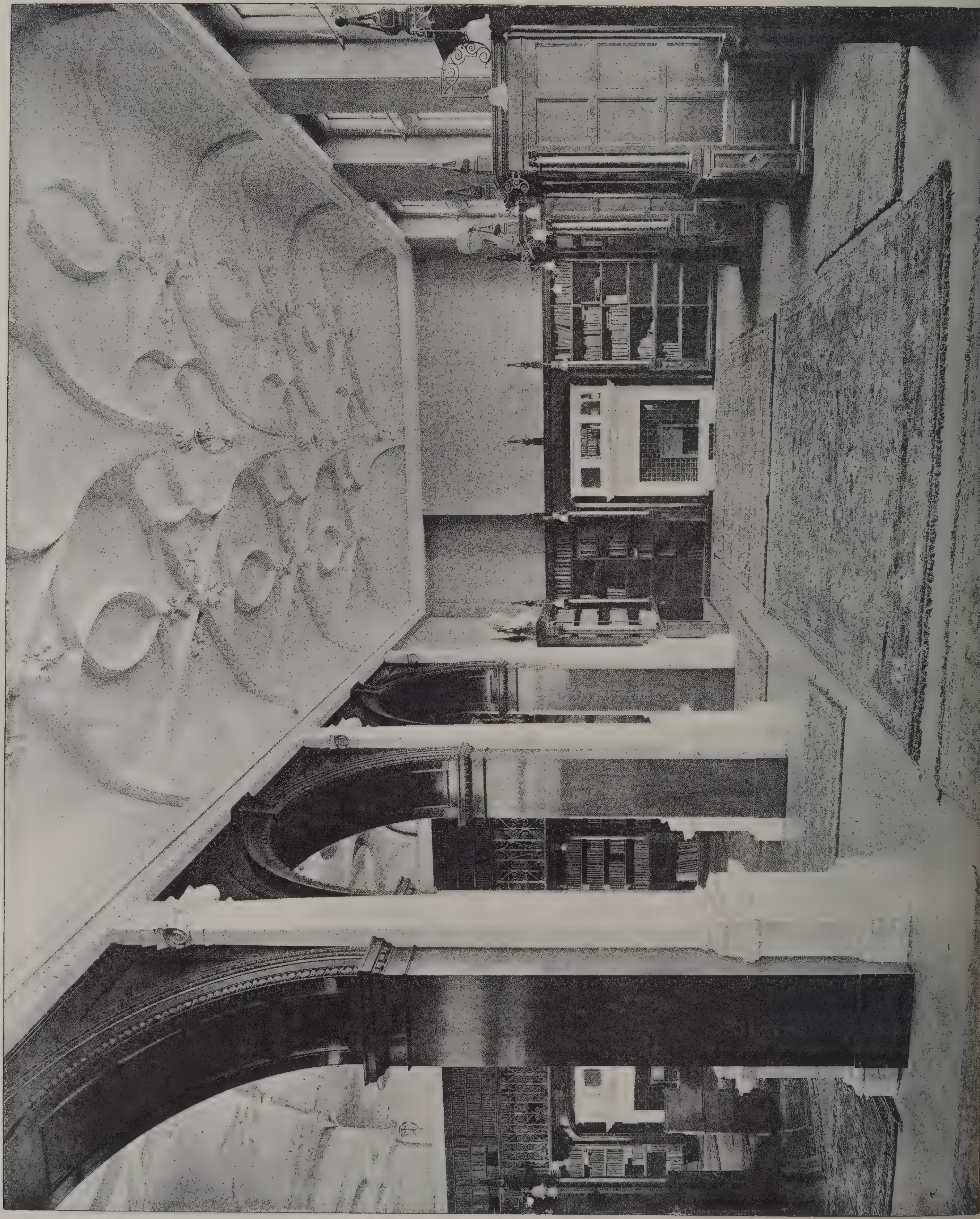

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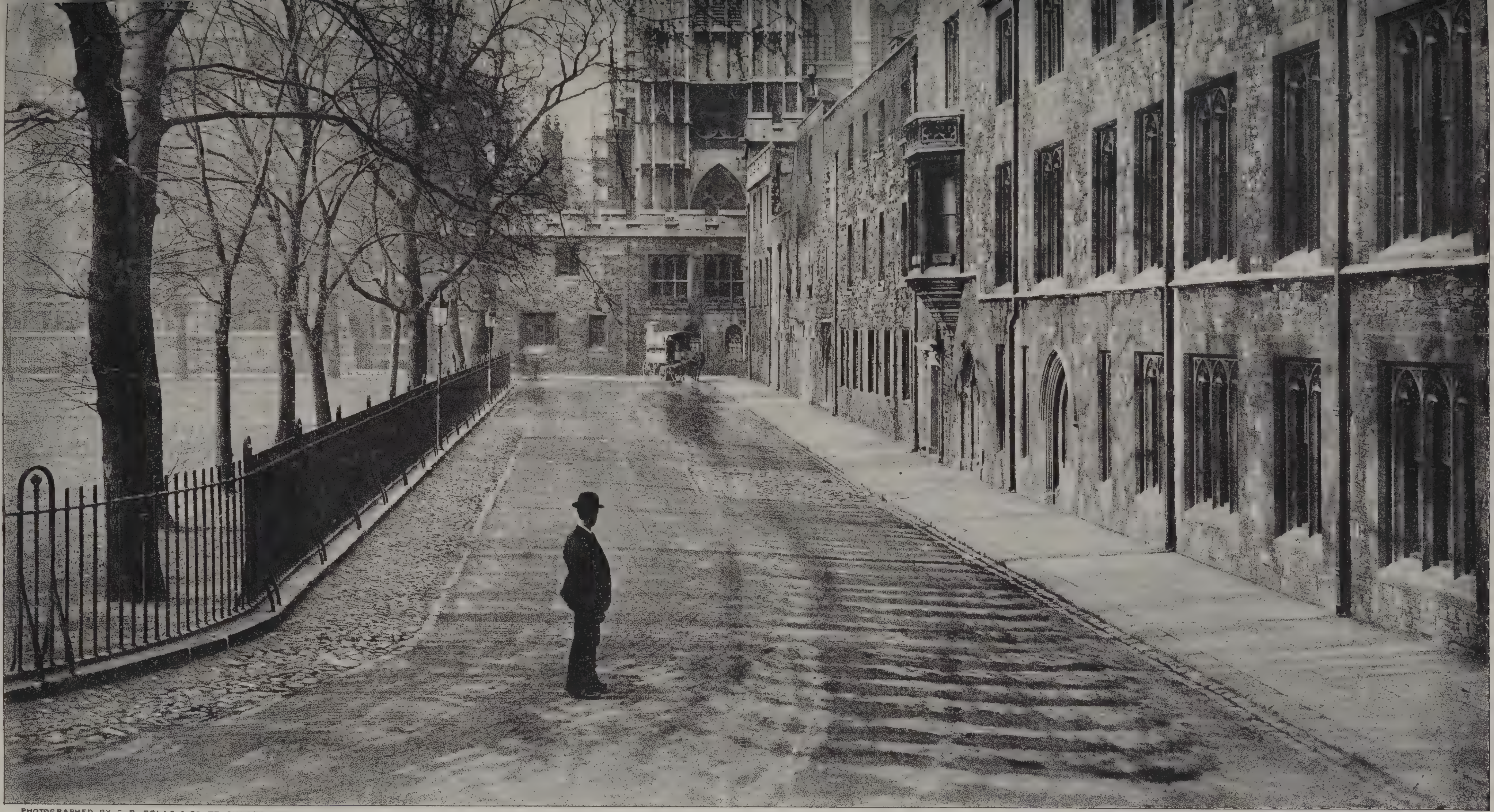

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Westminster Abbey, No. 59.
Showing Tower and Roadway from Dean's Yard.

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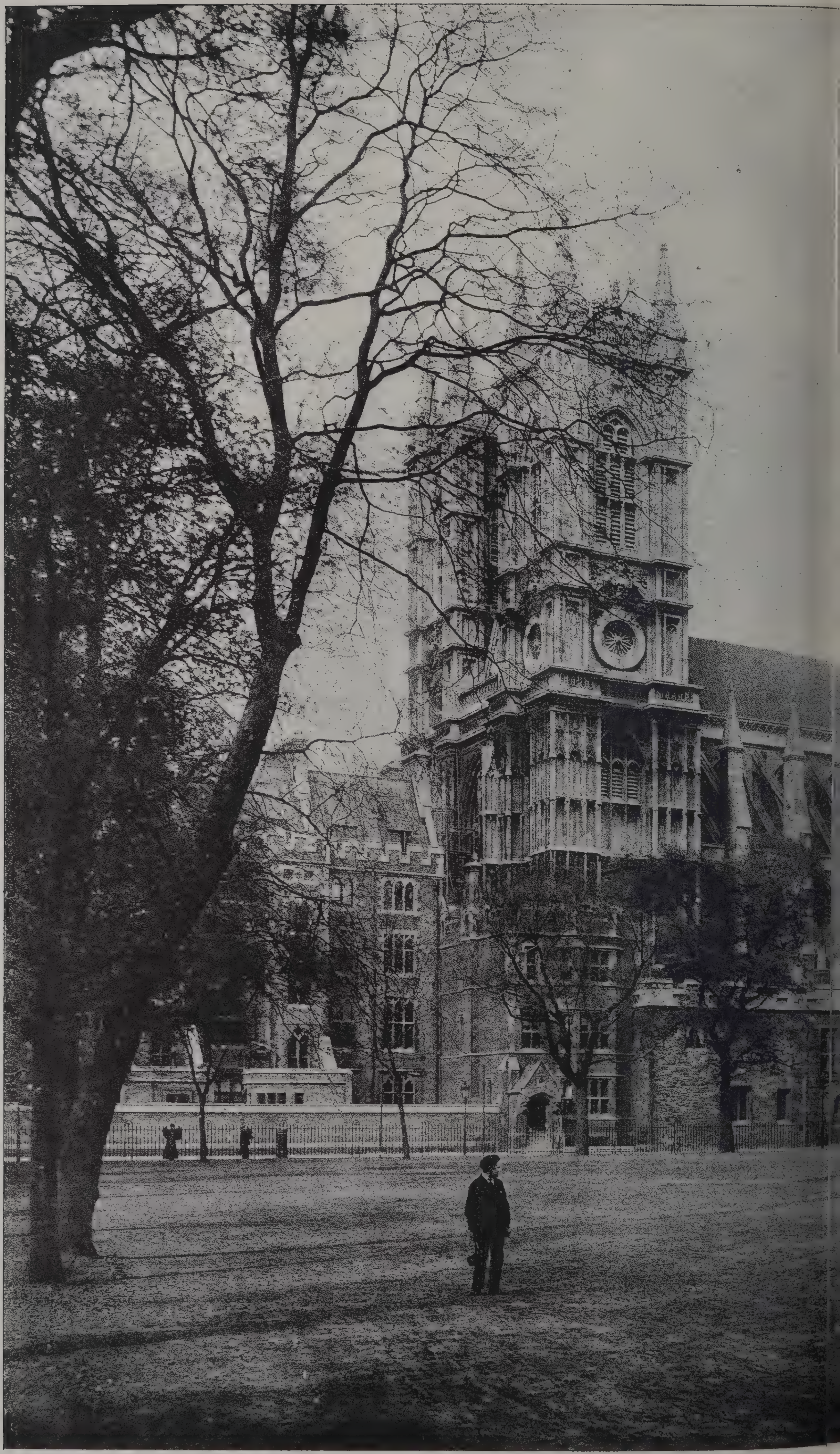

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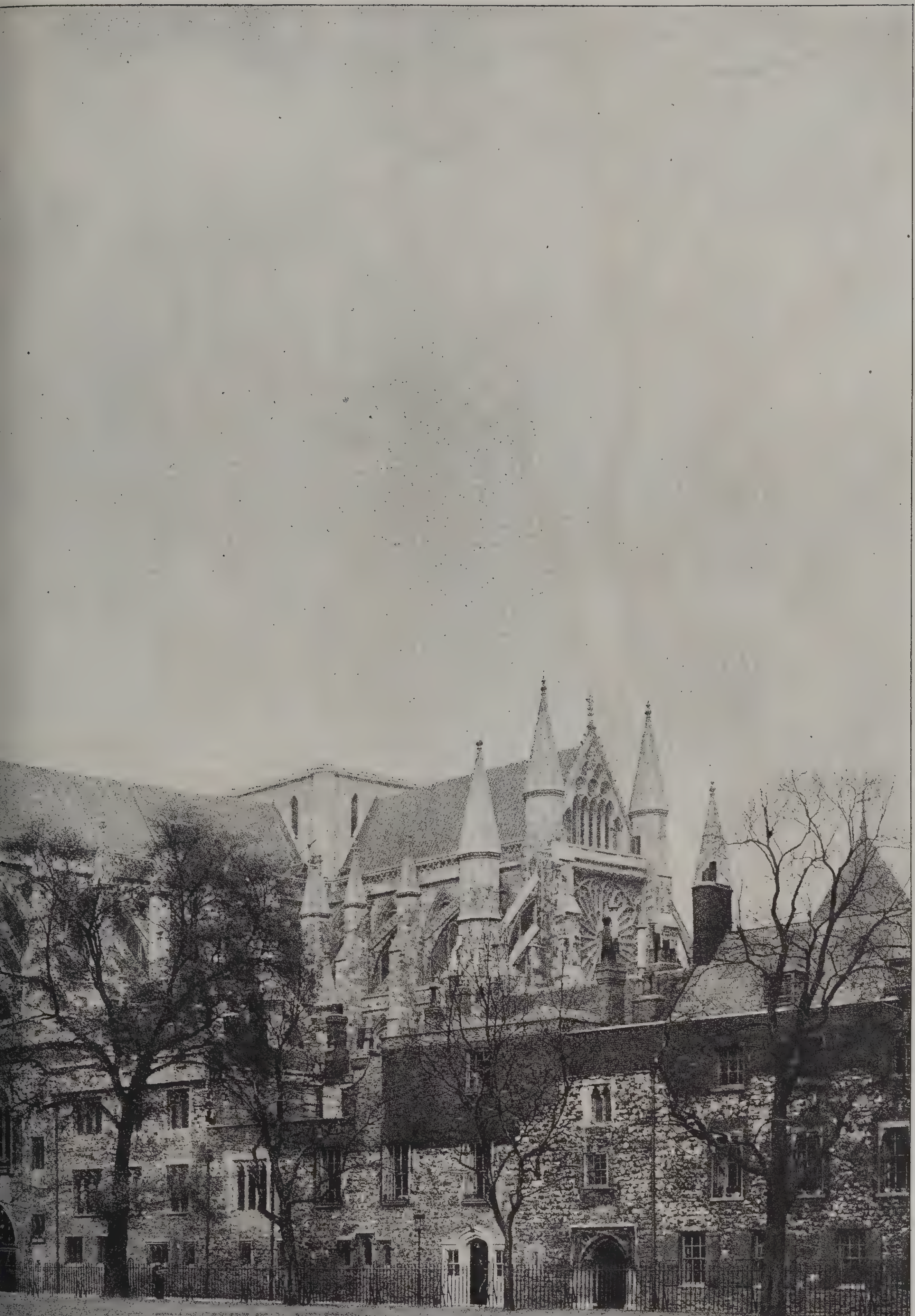

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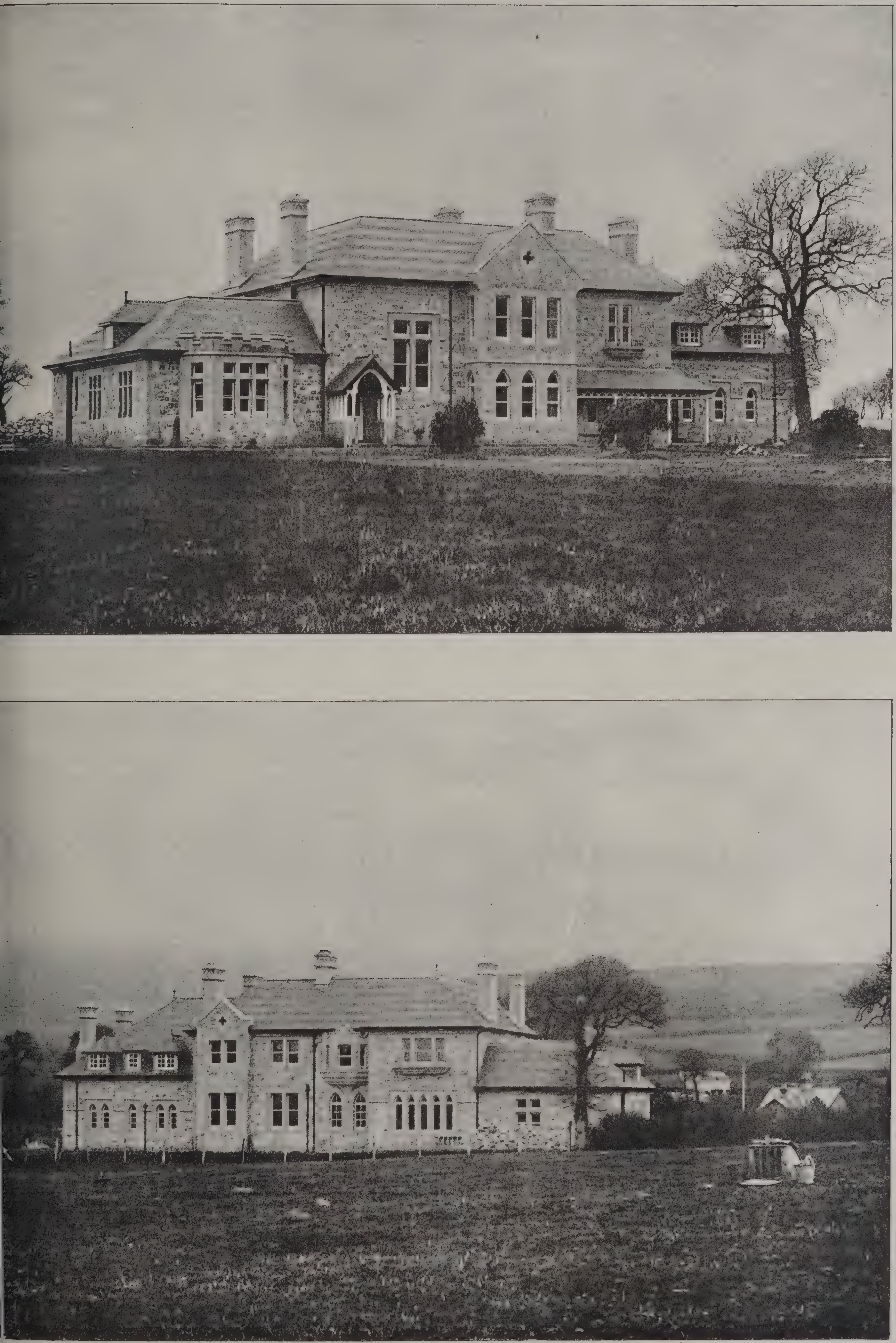

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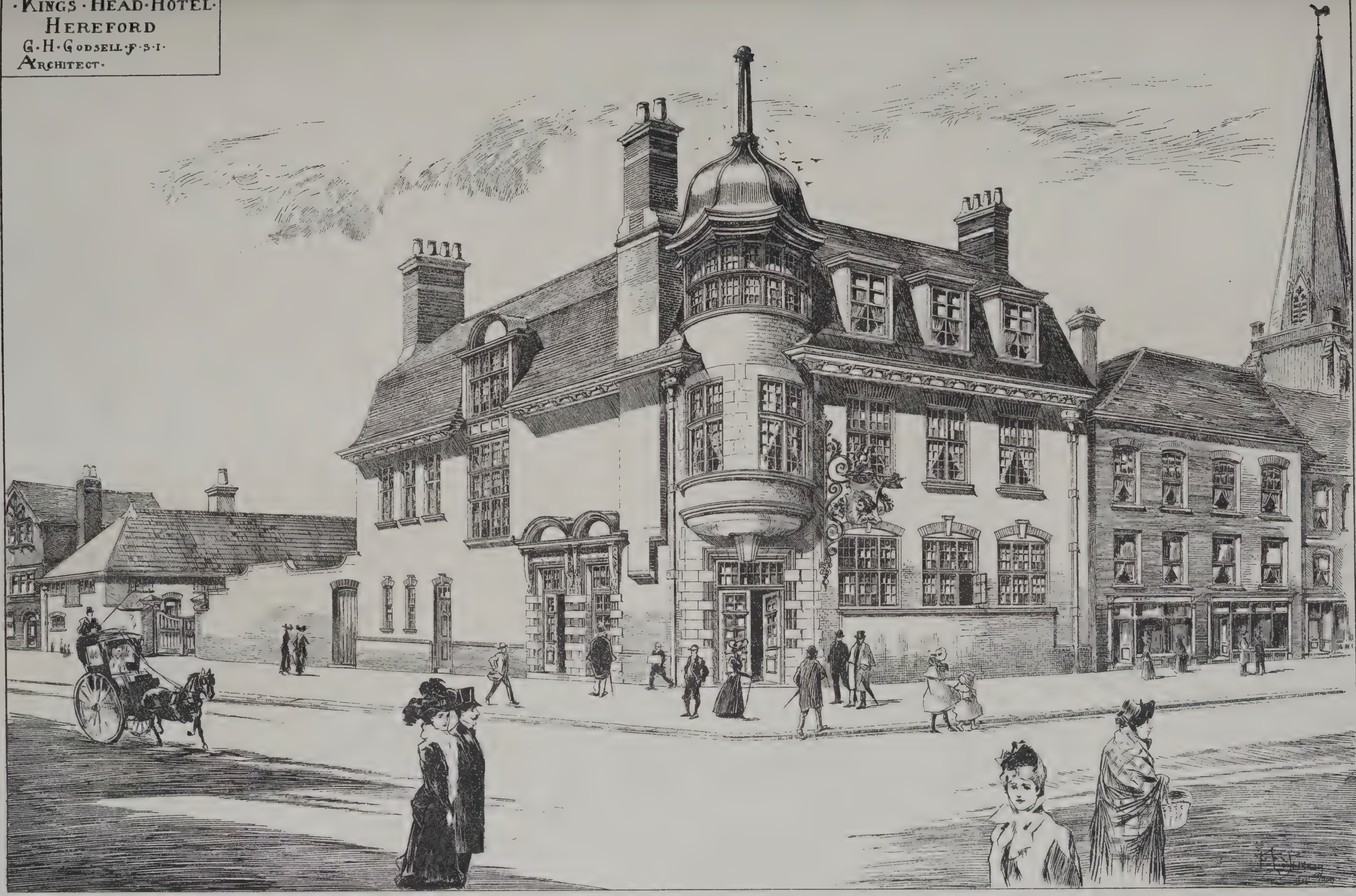
"HOMECLOSE," ISLE OF WIGHT.

W. C. STREET, Architect.

The Architect, May 25th 1900



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The Architect.

THE WEEK.

A MAN of remarkable versatility passed away from this life on Monday evening in Sir GEORGE GROVE. As he was born in 1820 he was in his eightieth year, and until a year or so ago he was able to give attention to the numerous interests of which he had charge. Like several men who have shown capacity for undertaking a diversity of business, he began life as a civil engineer. He was a pupil of ALEXANDER GORDON, some of whose formulæ for the strength of beams and columns are still employed in offices throughout the world. In his twenty-first year he was sent to the West Indies to superintend the erection of a lighthouse from his master's designs, and three or four years afterwards he went to Bermuda for a similar purpose. On his return to England he was in time to take part in what was one of the greatest engineering revolutions. ROBERT STEPHENSON had undertaken to cross the Menai Strait by means of a tubular bridge. It was necessary to have a staff at the works instead of at Westminster, and GEORGE GROVE was fortunate in being employed as an assistant. His general activity recommended him for appointment as secretary to the Society of Arts in 1849, at a time when the Great Exhibition of 1851 was on the tapis. From the experience he attained he was considered to be eligible for the secretaryship of the company that was created for the erection of the Sydenham palace. In his new office he recognised the opportunities that were presented for the promotion of music. A trained business man, he brought to the new organisation qualities which were not common in musical societies. He wished to popularise high-class music, an innovation which was not acceptable to all musical amateurs of the time, and with the aid of Herr MANNS, performers were created and concerts given altogether unlike any hitherto known in England. He was not a practised musician, but he had the skill to recognise that a piece of music was an example of construction, and he applied his engineering skill to elucidate the principles which were to be observed in it. Comments on pieces were usually intended for a few amateurs, and were expressed in a species of jargon which to a scientific mind was ridiculous. Mr. GROVES's programmes appealed to common sense people, and revealed to them that it was not necessary to soar beyond the earth in order to enjoy music thoroughly. When the Royal College of Music was founded in 1882 general opinion pointed to his fitness for the directorship, and during the dozen years he held office he worked wonders. Another good work on which he left his mark was his promotion of the Palestine Exploration Fund. He has therefore many claims to remembrance, but especially for proving that training in constructive science is an admirable preparation for work of an æsthetic kind.

ALTHOUGH Portsmouth is likely to have many opportunities for commemorating incidents in the South African war, it is no less desirous to have on record means of showing hat the town had also occasions for celebrations in former ears. Subscriptions are now being sought for the erection f tablets on several places which have more than local nterest. The first is the old Landport Gate, through which most of the kings and queens of England have passed. nother is the Sallyport, along which many heroes have assed on their way to naval triumphs. The George Hotel, n which NELSON lived during his last days in England, nd which he left on September 14, 1805, in order to proceed to Trafalgar, is also to bear a tablet. Readers of the UMAS cycle of novels, in which D'ARTAGNAN is the hero, ll be interested to learn that the house in which the Duke BUCKINGHAM was assassinated by JOHN FELTON will likese be indicated. For many visitors the most distinguished the selected places will be the modest two-storeyed house here CHARLES DICKENS was born. Among the other ouses which visitors will like to see are those of Lord NSON, Admiral HOWE and other celebrities of the ocean. he design for the tablets will be obtained by means of a ompetition among the students of the local School of Art. It would be a great advantage if many of the other historic towns of England were able to follow the example of the Portsmouth people.

SOME archæologists who have visited the lecture-room of the Royal Academy have expressed surprise to see a design for the Great Seal among the sculpture. Owing to its importance, it is commonly supposed that the seal is of great age. But they are subject to wear and tear like other objects, and their average duration is about twenty years. During the present reign great seals had to be produced in 1838, 1860 and in 1878, the last being still in use. In order to spare it as much as possible wafers have been used instead of an impression from it in wax. It was therefore necessary to have a new one executed, and the commission was given to Mr. DE SAULES. The cost will be 400*l.*, which considered a low price, for the work is extremely difficult. The seal of 1878 cost 513*l.*, and in 1860 the cost was 413*l.* The Great Seal is an ancient institution, and it has been stated that in the abbey of St. Denis there were charters of OFFA and ETHELWULF bearing seals representing their portraits. One of EDGAR's is a bust in profile. But after the Conquest seals became more generally used. From WILLIAM the kings are represented on one side of the seal on horseback, the face turned to the right, except that of CHARLES I., which is to the left—a difference that was considered as an omen. EDWARD IV. is the first king who wears the close crown. EDWARD THE CONFESSOR, HENRY I. and HENRY II., contrary to the usual custom, are represented as seated, and hold the sword and dove. The Great Seal was, according to DU CANGE, usually worn by the Chancellor on his left side.

THE important question "What is a house?" received further elucidation in the House of Lords on Monday, when judgment was delivered in the case GRANT *v.* LANGSTON, which has been in litigation for two years. It related to nothing more than a public-house with rooms over it in Portobello, near Edinburgh. The annual value of the shop was 98*l.* and of the upper part of the building 33*l.* The surveyor of taxes desired to have the two storeys assessed as a dwelling-house value 131*l.*, when house duty at the rate of 6*d.* in the pound could be claimed. The owner and occupant refused to be a party to the arrangement, and the Commissioners who investigated the subject came to the conclusion that no liability to inhabited house duty existed in respect of the lower storey. The case then came before the Court of Session, where it was decided that the owner was liable for the duty for the public-house, or, in other words, the shop and floor above should be considered as a dwelling-house. Accordingly there was an appeal to the House of Lords. The Lord Chancellor said the difficulty arose out of the use of the original name when the thing it referred to had been altered. A hundred years ago, his lordship stated, there was not much difficulty in saying what was a house, but builders and architects have so altered the construction of houses, and the habits of people have so changed in relation to them, that the word "house" has acquired an artificial meaning, and the word is no longer the expression of a simple idea. His lordship referred to the various controversies which arose over the tests which should be applied in order to constitute a house. An outer door and a common or separate staircase are often suggested. The practice of putting separate houses one above the other, although they may be called only flats, has in one sense increased the difficulty. Since the Courts have held that a part of a house so divided and separated can be a distinct property, and the subject of distinct lease, it therefore became evident in the case in question it was the floor over the public-house which should alone be considered as a dwelling-house, and therefore liable to duty. Lord MACNAGHTEN, Lord DAVEY and Lord BRAMPTON agreed with the Lord Chancellor. It is therefore further confirmed that a part of a house can have as much right to be called a house as any palatial residence, and as such incur all subsequent liabilities. It will henceforth follow that one of them must be the payment of district surveyor's fees without the usual demurring.

SIR THOMAS DREW.

THE representative of the fine arts who was selected for birthday honours has rendered so many invaluable services to *The Architect* during thirty years, it would be ungrateful if we failed to give expression to our gratification at the distinction he has attained. He has ascended to a new grade, but nobody can imagine the new knight will differ from the Thomas Drew who has been no less of a "good fellow" among English architects than with his brethren in Ireland. In his case we would fain think it is not the artist merely who has been honoured, but the man who, regardless of private interests, has devoted so large a part of his life to architecture and to architects. He has been long regarded as if he were national property in Ireland, and demands were made upon his time without much consideration of the sacrifices which were imposed on him. No one has ever sought to promote a useful measure relating to art or archæology without obtaining from him more aid than was anticipated. In those two branches he is, as it were, the *chargé d'affaires* in Ireland, and his knighthood is only a small return for the labours so often unselfishly undertaken for the benefit of others. If judged from a professional standpoint, probably Sir Thomas Drew would not receive general commendation. Most men find it necessary to concentrate all their attention on their duties in order to exist, and excellent architects have lived amongst us who have resolutely refrained from accepting responsibilities which had not the closest relation with their banking account. Some have also waited to undertake semi-public duties until they had secured a competence which removed all doubt about their capability to give away precious time. Destiny and circumstances seemed to prepare the way for such a course of self-sacrifice as Sir Thomas Drew has gone through. A glance at his career will show this, and will explain how a man's environment can mould, if not create, his character.

He was born in Belfast in 1838, and his life therefore nearly corresponds with the reign of Her Majesty, by whom he has been distinguished. The northern capital was in those days a very different place from what it is now. The people of the North of Ireland represented the English invaders, especially those of the later periods or Ulster Plantation. In other parts of the country the strangers assimilated with the natives and became more Celtic than the Celts. But the "Black Northerners," as they were called, were made of sterner stuff and remained West Britons. The father of Sir Thomas Drew was a clergyman of the Established Church of England and Ireland. Although holding the opinions of the North he came from Limerick, and he possessed the eloquence and charm of manner which are characteristic of the South of Ireland. Although he could be considered as belonging to a different race, his activity, good-will and devotion to the Church won him position. His wife belonged to a family in which antiquarian studies were followed. The inhabitants of the North, much as they respect their parsons, believe that poverty is spiritually advantageous for them. Goldsmith's father was supposed passing rich on 40*l.* a year, and it is still believed in some orthodox circles that temptations are removed from a clergyman by allowing no more than the modern equivalent of that sum. In a household where there were thirteen children to be provided for out of a measured income there could be few luxuries, and Thomas Drew, who was to be the representative of the family, was early taught that he must depend on his own exertions. He had likewise an object lesson before him, which demonstrated that happiness can be present without wealth. Irish good-humour and a disposition to make the best of things prevailed over finance. In spite of his own privations the Rev. Dr. Drew resolved to make his son also a clergyman. With that object he became his tutor, reserving part of the office for a pedagogue, a living antiquity who had followed the scholastic practices of an earlier time, which would now seem strange in public schools. Then he was passed on to Dr. Young, of Belfast, who was considered an advanced educationist, and whose ambition was, in common with the majority of Irish schoolmasters, to be well represented among the prizemen of Dublin University.

The course followed by the three teachers was according to established lines, but there was a new spirit in the country which set at nought all stereotyped processes. The famine of 1846–47 had effected a social revolution. Those who died or emigrated could be counted not by hundreds of thousands but by millions. The *Times* was able to exult and say, "The Irish have gone, gone with a vengeance." But all who survived and were intellectual could not help asking themselves, Were the social arrangements perfect which accomplished so colossal an annihilation? The belief that "whatever is, is right," which could be taken as a West British formula, lost its importance. Young men in Ireland accordingly hesitated in following in the footsteps of their fathers. Thomas Drew was not the only clerical student who believed it was an unsatisfactory mission to go through life and persuade a section of his countrymen that they had reason to be thankful they were not like other people, on whom the mysterious scourge had so heavily fallen. On this occasion, as on others, he allowed his instincts to rule him, and instead of entering Old Trinity and studying theology under bedclothes, as was then the custom, he joined the office of Charles Lanyon.

It would be difficult to define Charles Lanyon's duties, for to a great extent he might be considered as the creator of Belfast. Whatever could be considered constructive came into his hands. He was omnipotent, for the people realised that he could promote their interests more surely than if they followed their own ways. Belfast, too, held a unique position among Irish towns. It was owned by the Chichester or Donegall family; but the whole of the ground was so cut up by long leaseholds, it was safe to believe that every respectable inhabitant of Belfast was the proprietor of the land on which his house stood. Lanyon realised the peculiar economical conditions. While labouring with might and main for the future of the city, he never indulged in costly architectural schemes which would have imposed too heavy a burden upon the people. He was more ambitious to compensate for the shortcomings of its natural features and to create a port which need not be confined to the sheltering of small craft. If Belfast is, as at the present time, the only place in Ireland where vessels of large tonnage can be constructed, the credit must be ascribed to the foresight of Charles Lanyon.

In his office there was a variety of work carried out which could not be matched elsewhere in Great Britain, and for a young apprentice like Thomas Drew the opportunities for the acquisition of knowledge were countless. It was the respected custom in those days that all fresh pupils should begin, like Lord Chancellor Thurlow and William Cowper, the poet, when they were studying law, by "giggling and making giggle." The adventures by flood and field in the country when making surveys and taking levels imparted physical vigour which bore the restraints of an office with difficulty, and every engineering assistant who had to assume responsibility voted pupils en masse as a bore, which only could be tolerated by the recollection that they once found life to be also a frolic. Charles Lanyon had to attend to too many duties to care for disorganisation, and "Tommy Drew" was not considered to be made of the material which was required in an architect or an engineer who might have to give evidence before Parliamentary committees and in assize courts, or to confer with Irish nobles and gentlemen, whose pedigrees went back to prehistoric times, about the best way of making ends meet by laying out ground as building sites, or by proposing to drain it, and in that way raise the wind from Commissioners of Public Works. Happily he found one protector. In Christ's Hospital, when Bowyer reigned by thrashing, Mrs Bowyer used to save many a culprit by diplomatically urging her lord to be severe. Mrs. Lanyon was no less charitable. The numerous assistants of her husband used to circulate stories of her goodness, and men who never saw her mourned for her untimely end. It was no doubt a her suggestion that young Drew was kept under the immediate surveillance of his master, although the privilege involved working for hours which a modern London pupil would consider as slavery.

As Belfast grew in prosperity Sir Charles Lanyon realised that its architecture must keep pace with its progress. He was proud of the city he had fostered, and he wished to see it graced with architectural work whic would be worthy of its future. Mr. W. H. Lynn was therefore, taken into partnership. This was an importan event for Thomas Drew. He might have been a county surveyor, or one of those humble public officials who combine architecture and engineering, and in neither branch attains any extraordinary prominence, but the artistic nature of Mr. Lynn awakened latent powers in his pupil's mind. The draughtsmanship of the new partner was a surprise, and it was Thomas Drew's ambition to approach it. In many offices where there is a large practice it is not always advantageous for a pupil to become a skilled draughtsman, for he is likely to be kept at the drawing-board, and consequently he is deprived of other kinds of experience which are no less necessary for an architect. But Messrs. Lanyon & Lynn did not hold with that principle. They wished to make their pupils skilled architects, and consequently the superintendence of work became as much their duty as the making of finished drawings from rough sketches. Accordingly Thomas Drew carried out the supervision of works in different parts of Ireland.

SIR THOMAS DREW.
(From a Painting by W. Osborne, R.H.A.)

In 1861 he left the offices of Lanyon & Lynn, and entered into partnership with Mr. Thomas Turner. He was an unusually able architect, and works by him are ound not only in Ireland but also in several parts of England. He was, however, over-modest and over-scrupulous. If he had prepared plans for a building which was to cost 50,000*l.*, and discovered that he had underestimated an item to the extent of 5*l.*, the possibility is that he would go in haste to his client and warn him that the building could not be erected for the sum named, leaving it to be imagined that the work was sure to cost 100,000*l.* before it was completed. For so conscientious and apparently irresolute a man the Belfast people were not likely to accept his partner as an all-sufficient substitute. He was known as rather a wild boy, and his wise fellow citizens concluded that a boy he was destined to remain. Accordingly, after the experience of about a year, in which the impressions received in his father's house were deepened, Thomas Drew removed to Dublin. There he co-operated with Mr. William Murray, who was afterwards to be his brother-in-law, and who was possessed of a profitable practice in connection with banks and insurance offices. But Thomas Drew did not allow professional practice to occupy all his interest. In 1863 he joined the Royal Institute of Architects of Ireland, which was founded in 1839 with a flourish of trumpets by Morrison, who was then the great man in the art. It was at a time in a moribund condition, but through the energy of Thomas Drew, who was appointed honorary secretary, new life was imparted to it. Soon after he became an associate of the Hibernian Academy, and succeeded J. J. McCarthy, whose churches are to be found all over Ireland, as professor of architecture. He never cared to be a quiescent member of a society, but always took his share in the management. He joined the Institute of British Architects in 1866, and was elected a member of the Council, but as he could not approve of some of the financial strokes he resigned. He remained apart for ten years without, it is needless to say, any disadvantage to himself. His loss was felt, and he was persuaded to rejoin that body. In the Irish Institute he has held the foremost position since 1892. He was nominated President of the Royal Society of Antiquaries in Ireland, and held that office for the three years 1895, 1896 and 1897. Owing to his interest in architecture and Irish antiquities he resigned his seat at the Council of the Royal Irish Academy. That Society has two sections, Science and Polite Literature, the latter including archæology. But in reality there are many divisions, and a struggle is always going on to make one of them predominant. Thomas Drew was dissatisfied with the ignoring of his favourite subjects and retired No architect of our time can claim to have equal experience of the operations of professional and learned societies. That he has contributed in that way to the common good was no doubt remembered when he was singled out for knighthood.

We suppose it was partly owing to his reputation for unselfishness, as well as to his position as a church architect and archæologist, that he was invited to become the honorary architect of Christ Church Cathedral, Dublin. It was remarkable, however, that the suggestion should have come from Mr. Henry Roe, the gentleman who had expended most of his fortune on the work which the late Mr. Street carried out. Honorary as the office is, it is now no sinecure. Mr. Drew is continually pondering over the problems which so ancient a building still presents, and we lately described his remarkable discovery by which the cathedral is connected with the history of the Comacini and their wanderings from Italy to Dublin. What is more, he has popularised the cathedral. It was at one time avoided as if it were a plague spot, but now bands of excursionists, societies and organised crowds find a pleasure in visiting Christ Church and in listening to the architect unfold its history with a freshness, simplicity and lore which must make English visitors wish they could have such an interesting treat in their cities. He was no less disinterested in accepting the honorary charge of the other cathedral, St. Patrick's; but there virtue has had its reward, for he will have charge of the great works of restoration about to be undertaken through the munificence of Lord Iveagh. Another restoration which required a good deal of thought was that of Waterford Cathedral, which only dates from 1672. He was diocesan architect of Down, Connor and Dromore, but on the disestablishment of the Irish Church he continued his supervision as honorary architect. He received the appointment as consulting architect to the cathedral of Armagh in 1897. It should be remembered that commissions are not as numerous in Ireland as in England, but Sir Thomas Drew has built, restored, or recast about fifty churches in the North of Ireland alone, including those at Coleraine, Ballyculter, Dundrum, Belfast, &c. The new cathedral of St. Anne, Belfast, which is in progress, is also his work, and it has more than local interest, as the arrangements will not be of the customary kind.

The Ulster Bank and several other prominent buildings in Dublin were designed by Sir Thomas Drew, and he has now in hand the Graduates' Memorial Buildings for Trinity College. His country houses are numerous. We may refer to those of Colonel Clements, of Lochrin, and Colonel Biddulph. Houses by him are also to be found in England.

An architect could not have had a career like Sir Thomas Drew's if he did not possess social gifts of exceptional attraction. He is a recognised favourite in Dublin society, which intellectually is most exacting. Sir Thomas Drew there shines as elsewhere. He is happy in his own life, and he can make others feel he is ready to do his best to make the quality become general. He can say in the words of his countryman, "As some men gaze with admiration on the colour of a tulip and the wings of a butterfly, so was I an admirer of happy human faces." His portrait will show he has still the energy to conduct architectural works on a great scale, and all who have known or heard of the new knight will wish him a long enjoyment of the honours he has so well earned.

ARCHITECTS AND CLIENTS.

In the "Briefe von Wilhelm von Humboldt an eine Freundin" there is a passage which deserves the attention of all who in a public or a private capacity offer commissions to an architect. The statesman who had done so much towards the resuscitation of Prussia after the wars with Napoleon had sent his correspondent, a lady with whom he had had a brief acquaintance in his youth, a drawing of one of his residences. What could she do but praise it, especially as she imagined it must have derived much of its artistic character from Humboldt's inspiration? He was strictly just in all his dealings, and he lost no time in disabusing her. Any value the Schloss possessed, he wrote, arose from giving his architect the fullest liberty, and he was pleased because in that way the work expressed the character of the artist. An acknowledgment of the kind may now appear simple, but if the circumstances are considered much importance must be attached to it. In the first place, Humboldt was a man of genius who was trained and his faculties systematised by the foremost teachers in Germany. Then, from the peculiar qualities of his mind and taste, he was sent as ambassador to Athens and Rome. In both cities he laid the foundations of that archæological science which has advanced the fame of Prussia. There was no private gentleman in all Germany who had a more exact knowledge of ancient architecture, and he must have been a very obtuse architect who would not receive suggestions from him with gratification. But although he was an example of the Prussian bureaucrat and set a high value on system as one of the forces of humanity, by one of those reactions which are not uncommon among great men, he was also the apostle of individuality. When, therefore, he called in a local architect he allowed him the utmost liberty on principle, and was satisfied with the result. The praise of the building which his unhappy friend expressed was to him a compensation if he found any of the details were not in keeping with Greek or Roman precedents.

It would be well if the example of Humboldt were accepted generally as deserving of imitation by clients in this country. One of the defects of Englishmen, although it may represent a virtue when displayed in another way, is a belief in the omnipotency of their individual common sense, and of its superiority to any professional knowledge or experience which has been attained by specialists. As a consequence, one can hear ordinary people every day on the spur of the moment criticise and condemn not only architectural designs, sculpture, or paintings, but also the procedure of statesmen, lawyers, physicians, or generals. It is a common saying that every Englishman believes he can drive a cart, conduct a farm, or edit a newspaper more successfully than those who have no other occupations. But that expresses only a very limited view of the notions of our insular capabilities. The average man has at all times shown a more wide ambition, especially in the case of architecture.

Wren, as is well known, was compelled, owing to the strength of amateur influence, to abandon his original plan for a cathedral which would be adapted to the services of the Reformed Church of England, and to substitute one resembling those which were employed for a different ritual. We know also that in the execution of the work he was hampered by those who believed they were possessed of a finer taste, and in his old age the younger Commissioners employed all their power to obstruct his arrangements for completing the cathedral. The only valid grounds which could be offered for their interference were based on accusations against some of the inferior workmen, who were employed on works of little importance. Finally Wren was superseded as Surveyor-General by a Mr. Benson, who was one of the very numerous band of minor poets, and who, even in the mechanics of rhyming, was not distinguished. As late as 1717 the arbiters of elegance decreed "that a balustrade of stone be set upon the top o the church, unless Sir Christopher Wren do, in writing under his hand, set forth that it is contrary to the principles of architecture, and give his opinion in a fortnight's time; and if he doth not, then the resolution of a balustrade is to be proceeded with." Wren gave his reasons at length, and demonstrated that the edging would "break the harmon of the whole machine," and would be contrary to th principles of architecture. Nevertheless the balustrade was completed. It would be interesting to know what Wilhelm von Humboldt would have thought of such a transaction. An architect of individuality who combined artistic taste and science was disregarded because, as Steele said, he wanted that manner by which men of the world support and assert the merit of their own performances. Wren was not his own trumpeter, and accordingly he suffered in his old days, for his clients were more anxious to please themselves by meddling with his work, in order, under false pretences, to gain the pitiful fame of doing something for which they were incompetent, rather than to allow a great building to be carried out properly.

Well would it have been if the case of Wren were taken as one of warning, but the history of English architecture contains unhappily too many similar records of the fussiness of men who were unacquainted with even the rudiments of the art. The fine Ionic building in Dublin which was formerly the Houses of Parliament loses its character for unity by the introduction of a Corinthian façade which marked the entrance to the House of Lords. The Irish peers had somehow heard that in the scale of dignity the Corinthian order stood above the Ionic. According to the popular legend, which has never been refuted, it was therefore accepted as a happy thought to insist on the alteration of the design, and a mongrel effect was produced which was enough to scandalise a hodman. Not far from it in the same city is a great Doric church which the committee surmounted with a dome regardless of the incongruity. The late Mr. Ayrton was not a scholar, but he must have heard of what took place at St. Paul's and in Dublin. We suppose he was ignorant of the existence of so great a man as Wilhelm von Humboldt, and the delicacy of the German statesman would have appeared to him as absurd. During the arrangements for the erection of the Law Courts he was continually asserting his authority as if he were a new Earl of Burlington, and the unfortunate architect was every day harassed by demands to make the building more expressive of Ayrtonian ideas. He had not the least misgiving about his competence to secure the erection of courts that would be satisfactory to lawyers and suitors, but it cannot be said the existing building is creditable to Mr. Ayrton's judgment in planning offices for public uses. Compared with the tactics of the St. Paul's Commissioners and of the Chief Commissioner of Works, Palmerston's conduct in regard to the Government Offices in Westminster was straightforward and merciful. He had an honest hatred against Gothic, and refused to allow public offices to be built in that style. In so doing he acted like a fanatical despot, but it was preferable to set aside plans at once rather than be continuously altering them in order to bring them near an ideal of an unarchitectural kind.

It is a misfortune that in cases of unwise interference on the part of a client the architect has to submit, unless he is prepared to sacrifice his labour and his commission. In the eyes of the law the relations between the two parties are of a financial kind. The marring of a design is not considered to affect the architect. A change may blast his reputation, but he is free to stick to his original conception if he will suffer a loss in sterling coin. In the schedule of rules for professional practice issued by the Institute every clause relates to remuneration. So long as an employer is prepared to pay the extra charges he may make any material alterations of plan his whim suggests. In the official document there is nothing to show that the representatives of architecture believed in the advantages of unity, and that changes should never be made, in the belief that plans are elastic and can be twisted and turned to suit any arrangement without losing their character.

It must be said the judges and juries in England are never likely to take a different view of the nature of designs. The late Lord Bramwell compared plans to the pleas which were prepared by an attorney, which signified that they were occasional documents which could be transformed at will. His lordship would not, of course, compare a set of pleas, although bound together with red tape, to the model of a statue or to the cartoon of a great wall-painting, and we may conclude he would have considered it no less ridiculous to trace any connection between an architectural plan and a work of painting or sculpture. In a legal sense the distinction has, however, one advantage if not more. Unity is supposed to be so indifferent from a lawyer's point of view, that if an architect is found to be acquainted with the general character of his work the law does not expect him to go into all the details, and if he will assume the responsibility he may employ as many assistants in the different departments as he likes. So long as he does not delegate his controlling duties to a man of inferior station and who is willing to accept a moiety of the percentage, the architect's freedom is less restricted than many suppose. A design for a building which embodied the work of several men each working independently would not be illegal.

It is, of course, within the rights of a client that in giving a commission he should define what he expects to have in a building, and there are few architects who would not be willing to have conferences with him in order to attain that end. There are also after-thoughts which it is often desirable to realise, although in doing so there may be inconvenience. But to treat plans as if they corresponded with legal documents, and by deletions or interlineations can be improved without any transformation of their original character, is a fallacy to which the majority of clients are liable. The worthies who preferred a balustrade to a plinth, and who considered Ionic and Corinthian columns could be placed with advantage on the same level to serve similar functions, and who were confident that a Doric building was incomplete unless it was capped by a dome, were all supposed to be representative of an educated, refined and reasonable class; they were therefore superior to the average client. But if they deliberately erred through a belief in the superiority of their judgment, who can wonder if in many architectural works parts appear which the architects whose names are associated with the buildings would be the first to denounce?

THE PROPOSED NEW STREET FROM HOLBORN TO THE STRAND.*

THERE can be little doubt that the new thoroughfare—the clearances for which are now in operation, and which will extend from Southampton Row, Holborn, to the Strand—affords a grand opportunity for architectural display, besides meeting a crying want as regards vehicular traffic from the north to the south of London.

Personally I am pleased to be able to speak to-night of this new street, because in the "Prize Westgarth Essay," which I gained in 1884, and in the papers on "The Reconstruction of Central London," which I subsequently read before the Royal Institute of British Architects and the Surveyors' Institution, I proposed a similar new street from Southampton Row to the Strand, terminating in a large circus at the junction of Wellington Street, and so on to Waterloo Bridge. That street is shown on the plans which accompanied my essay and papers, and in referring again now to my plan, I am not by any means convinced that the London County Council plan is better, either as regards traffic or architectural possibilities. However, we are dealing to-night with the London County Council plan, and I trust that this short paper will lead to a good and useful discussion.

You will see, gentlemen, by the plan I now exhibit—which is the Parliamentary deposited plan—that the new street really commences at the junction of Vernon Place with Southampton Row, that up to that point Southampton Row is widened, on its eastern side, to give a width of 80 feet, and that thence, from Holborn, there is a straight street 100 feet in width, terminating near the present Olympic Theatre, and then curving eastwards and westwards in a graceful crescent-like form the street discharges itself eastwards at St. Clement Danes Church, and westwards at Wellington Street. The Strand between St. Clement Danes Church is widened, giving a width of 100 feet and more at the narrowest part, and leaving the church of St. Mary-le-Strand standing, and to that extent only reducing the width I have mentioned.

In considering this new thoroughfare, one's thoughts naturally turn to the Continent, and we think of Paris, of Brussels, Berlin, Vienna and Budapest. The Boulevard de Sébastopol, the Grand Avenue des Champs-Elysées, the Boulevard Haussmann, in Paris; the Boulevard Anspach and others in Brussels; the comparatively poor streets and avenues of Berlin; the magnificent streets and avenues of Vienna; and that fine thoroughfare, the Andrassy Street, in Budapest. And with all this before us we see that, properly dealt with, we

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* A paper read before the Society of Architects on Thursday, May 23, by Mr. W. Woodward.

Londoners have a chance now of eclipsing, or at all events equalling, architecturally, any of the streets or boulevards I have referred to.

First, as regards the very important question of width. I think that 100 feet, building to building, is sufficient for fine effect, without entailing the dangers and difficulties of getting across, which attach themselves to all great widths.

Portland Place has a total width, building to building, of 126 feet, made up of open area on each side 10 feet in width; footway and kerb, 17 feet in width; roadway and channels, 72 feet in width. The width of this street is the more striking because of the low altitude to which the houses are carried. Northumberland Avenue is 90 feet in width, which strikes everyone as insufficient, because of the high buildings which front it. The Gray's Inn Road, as widened, is 60 feet in width.

One important question, therefore, which the Council will have to decide is the maximum height to which they will allow the new buildings to be carried.

I assume that a subway will be formed under the roadway for the sewers, gas and water pipes, telegraph and telephone wires, &c., and the material for covering the roadway, as well as that for the footways, will require careful consideration.

The question of electric or steam or other tramways will engage the attention of the Council, and I must say that I hope if electric tramways are permitted that they will not be worked on the over-head wire system.

The position of the electric lamps, whether in the centre or sides of the road, or whether in the centre from wires attached to each frontage, will also be a matter of importance.

The great crescent does undoubtedly on plan lend itself to great architectural possibilities; the beauty of the curve and its junctions with the straight open up a fine field for design, and the fine width and length of the straight street should prove material upon which the skilful architect could erect structures worthy of the occasion and of the Metropolis.

There is one criticism of the Council's plan which will probably occur to architects in this room, and that is that the straight part of the new street, instead of terminating at the crescent, should have been extended so as to open up the flank of the church of St. Mary-le-Strand as a central feature; this I have shown on the plan now exhibited.

Everyone with an eye for effect must have tired of the long lines of architecture, all from the same mould, which grace most of the continental thoroughfares, and the Council will, therefore, to be successful, carefully consider the question of dealing with the street in blocks, and making each block so far one harmonious whole, but not necessarily making each block like its neighbour. A certain amount of freedom in design and in detail must be permitted, but in the mass the general lines must be adhered to.

As regards this very essential matter of design, great care and discretion must be used by the Council. They must not be so severe and work on such hard and fast lines as to drive away building leases; they must not strangle the picturesque in order to produce what may prove to be dull monotony, and on the other hand they must not allow this grand opportunity to be lost by permitting all sorts and sizes of buildings and all sorts and conditions of details.

I suppose I need scarcely say that the Greenery Yellowry and the Grosvenor Gallery and the Queen Anne and the Mary Anne will be tabooed, and I trust that the Council will put its foot heavily down on terra-cotta, and permit only Portland stone to be used in the fronts, as also in the chimney stacks and returns where left to be viewed from the streets.

On this question of architecture we all know that the Council, with a much-to-be-praised desire to obtain the best advice available, has decided to invite eight architects to send in designs for dealing with the difficult problems involved. Four of these the Council will themselves appoint, and four are to be nominated by the Royal Institute of British Architects. Whether the result of this effort will be success or failure we do not know, but the idea will no doubt form a fine field for discussion here to-night.

Just one word more. I do hope that the London County Council will insist upon the use of water-pipes and sprinklers to prevent the great nuisance which arises from the pulling-down and clearing away of the old buildings, and with this I leave the matter, gentlemen, hoping that your observations will be courageous, not too short and not too long, and that what is said may be of some service to the great body at Spring Gardens, who are, I am sure, quite willing to listen and to profit by anything which is likely to add to the success of this great undertaking.

Since writing the above paper I see that the *Daily Express* is very properly, I think, advocating a "Hall of Heroes—Lest we forget." It is suggested that the clearance for this new street would leave an appropriate site for the object in view, but I venture to think that some far more appropriate site may be found in London.

It is a matter though worthy of the consideration of the Council and of this Society.

DURHAM CASTLE.

A VERY interesting discovery has just been made at Durham Castle, which may probably help to solve undecided difficulties as to the original construction of some portions of the castle. A few days since, as some workmen were employed in repairing the floor of a room adjacent to the suite of apartments used by the Bishop of Durham, it was ascertained that beneath the floor were the remains of a very finely preserved newel staircase. For a long time it had been suspected that a staircase of the description in question was existent, but an accidental circumstance was left to determine its whereabouts. The staircase, which has now been brought to light, was evidently used as the means of gaining access to the upper portions of the castle before the famous black oak staircase was constructed by Bishop Cosins. The excavations which have already been carried out point to this fact. The point to which access has been gained to the long hidden staircase is not far removed to that of the approach to the present black staircase. At the time the latter was constructed the former was undoubtedly built up for purposes of convenience and, it may be, on grounds of economy also. The work of the newel staircase is generally ascribed to Pudsey, and it may have been a continuation of one which communicated between Pudsey's upper and lower halls. The section of the staircase which has been discovered is between 13 and 14 feet long, and is in an excellent state of preservation. The excavations, so far as they have been carried out, seem to point to the fact that outlets from the staircase were obtained to different parts of the castle, but further prosecution of the work is needed to decide with anything like accuracy the importance and significance of the discovery.

DEVON AND EXETER ARCHITECTURAL SOCIETY.

ON Saturday, May 19, the annual meeting of the Devon and Exeter Architectural Society was held at Exeter, under the presidency of Mr. C. King, of Plymouth, and was well attended. The annual report, dealing principally with matters of professional interest, was read by the hon. secretary. There had been an increase of ten members during the year. The balance-sheet showed a highly satisfactory financial state. The members and officers of the Society were thanked by the retiring president (Mr. C. King) for the cordial support they had given him during his year of office.

In retiring from the chair, the President said:—In obedience to the recognised custom of this Society that the retiring President should give a short "homily," either in the way of encouragement or warning on matters seriously affecting our profession, I take as my text, "The permanency of our work and its influence for good or otherwise upon the public mind."

The profession, in my opinion, has a hopeful future if we rightly use the inheritance which is ours to-day. The great enemy to our profession in the provinces has been in the past the slight knowledge the general public has acquired of the true principles of beauty in architecture, chiefly owing to the local dearth of that which is beautiful, the few sources of education and inspiration, and the resting satisfied with comfort or convenience, however barren the art. But the professional and non-professional educator is abroad to-day with cheap and good illustrations of the beautiful and admirable in architecture, painting and sculpture; and these, in addition to the travelling facilities provided for visiting places of interest all over the world, must exercise an influence for good and create a desire for better results.

I am a firm believer in the refining influence upon character of the beautiful in art, and if we once thoroughly realise that our work is to be permanent, not merely a question of so many pounds, shillings and pence earned to-day, but to be seen enjoyed and admired or condemned by present and future generations, exercising upon them a refining and elevating influence, or the contrary, we have an ennobling ambition encouraging us to careful study, thoughtful application, and a giving of our best, not restricted by the value of our fees.

Many of us are probably discouraged when we find how few, if any, opportunities come in our way for distinguishing ourselves, or showing what we can do; but I, for one, am not prepared to give honour only to those who have designed and erected noble and beautiful ecclesiastical, imperial, municipal, or other buildings of a public or private character, but rather to the man who, utilising the means, however small, placed at his disposal, exercises his talents successfully.

It is not what we might have done if 10,000*l.* had been placed at our disposal for some building upon which only 5,000*l.* could be spent; but have we succeeded with the smaller sum as far as it would go, and realised a building answering in all respects to the purposes for which it was erected? The pleasure we ourselves enjoy in the various beauties of our ancient buildings should be a strong inducement to us to hand down to posterity a heritage which shall at least bring credit, and not shame, upon our generation of architects.

That this refining influence of the beautiful in art is not a sentiment, but a fact, was brought home to me very strongly some years ago when visiting the Barnwood House asylum for lunatic patients. Being shown over the house by the medical superintendent, one of the greatest living authorities on lunacy, I was struck by the air of refinement and culture which seemed to permeate the building, and especially so in the large music-room and theatre. For perfection of proportion and refined taste in the decoration, the room surpassed anything of the kind I had ever seen, and on giving expression to my surprise and admiration, Dr. Needham said that the refining influence upon the patients of beautiful surroundings was so great that no outlay, however lavish, in this direction was extravagance, and that even in the matter of a simple plaster cornice the best artists in London were engaged for the work. What a noble profession is that of architecture if such be the benefits arising from its perfect consummation, and how great are our responsibilities to cultivate and perfect the talent which is given us to use for the benefit of others.

We are told that we learn more from our failures than from our successes; certainly it is not an easy matter to be rid of them, for they are constantly staring us in the face. We may certainly learn much from the one or the other; but our duty is to learn, not to rest satisfied with successes or be discouraged by failures, but to aim higher and still higher, ever bearing in mind the permanency of our work and the effect, good or bad, it will have upon the minds and characters of those who are influenced thereby.

A vote of thanks having been unanimously passed to Mr. King, the following were elected:—Mr. C. J. Tait, president; Mr. H. G. Luff (Devonport), vice-president. To fill vacancies on the Council:—Mr. B. P. Shires (Plymouth), Mr. James Jerman (Exeter), Mr. A. S. Parker (Plymouth), Mr. A. Thorne (Barnstaple); hon. treasurer, Mr. O. Ralling; hon. secretary, Mr. Harbottle Reed.

TESSERÆ.

The Personal Element in Painting.

THE simple narrative of a fact *per se* will not constitute a work of art any more than a photograph can be considered a work of art, and for the same reason, viz. the material constituents of both are absolutely impersonal, for it is the personality of the artist—the impress on the work of the master's own mind and intention adequately expressed—which gives the art. In this age of scientific observation it is highly important, when we consider the art of painting, to bear in mind this distinction. So much is known now about the nature and construction of things, and such knowledge is so fascinating not only to any intelligent observer, but also to the painter, that he may well stray into the pursuit of this knowledge for its own sake, and forget that as a painter he must only pursue it so far and use it so far as his art requires. We can well understand the position of those who seem to hold that the patient and careful transcript or narration of facts, or what seem to be facts, in form and colour will constitute a work of art, while we wholly dissent from their opinion. Rather would we hold that these facts, heaped up before us in such generous profusion by science, are to a painter by no means an end in themselves, but only means towards an end.

Building Restrictions.

The building regulations of many English towns are founded upon those of London, without going quite so far in the direction of restraint. Those of the chief continental cities generally go somewhat further, especially in respect of the heights of buildings. Thus in Paris the front wall cannot, in the widest streets, be carried higher than about 65 feet; in Vienna the height of dwelling-houses may not, as a rule, be more than about 77 feet, while the floor level of the topmost storey must not be higher than 62 feet, nor may there be more than five storeys in the height of the house. In London no limit of height is actually fixed. The normal height is 80 feet, but a wall may be carried as high as the public authority shall permit. In Sweden the regulations seem to touch the question of taste in a rather important way. The front of a house must not be painted white, but some colour inoffensive to the eye. In other respects the continental regulations are generally more restrictive than ours—except as to balconies, the width of which, to the extent of about 4 feet, is legalised; while with us this (one of the most romantic features of the elevation) has, in every case, to pass through the chastening fire of the public authority, particularly if it overhangs the public way.

Queen Anne's Churches.

Before the vote for building fifty churches in the Metropolis was passed in Queen Anne's reign, Burnet says that there were in the suburbs of London about two hundred thousand persons more than could possibly worship in the existing churches. This had been partly owing to the Fire, 84 churches within the walls out of 97 having been destroyed in that tremendous visitation; but many had been rebuilt, and several of the smaller parishes had been united, so that it was not in the City of London itself that the want was felt so much as in Westminster, which had then joined it, and in the suburbs, which were every year becoming more extensive. In 1696 Evelyn complained of the increase of buildings about what he called "this already monstrous City," wherein, he says, he was credibly informed that, one year with another, about eight hundred houses were erected. St. Martin's and St. Giles's were then no longer in the fields, but Marylebone was still a village, and cattle were pastured upon the site of New Bond Street and Hanover Square. Of the proposed fifty churches only eleven were built, so grievously was this good intent frustrated in the performance.

Monumental Sculpture.

The earliest monumental figures in churches are all recumbent. They were, or were designed to be, the image of the deceased as deceased; decorated, perhaps, as ceremonies or circumstances directed for burial. However illustrious the life had been, the tomb presented only the memorial of death. And this practice appears to be in perfect unison with the sentiments respecting funereal records of every kind. The utmost scope allowed to the pious fervour of imagination was the raising the hands in the attitude of prayer. But from a natural love of variety, and perhaps, as the Church became more closely connected with the political state of the country, a greater latitude allowed to fancy introduced in a series of years some innovations in the original conception of those *memento moris.* In the reign of Elizabeth this liberty began to display itself in partial elevations of the figure, sometimes resting on one elbow if a single figure, or, if two together, taking each other's hand. The next advance of what was then called art was the raising the figures on their knees: this had still the air and expression of devotion. Finally, taking leave of devotional humility, the hero rose on his legs or mounted in the air, and the exhibition of worldly passions was opened.

Emblematic Fish.

Fish are much more numerous in blazonry than sea-birds; indeed, a whole book "On the Heraldry of Fish" has been written by Mark Lower. They owe this distinction most probably to the circumstance that the early Christians adopted a fish for their monogram, and sculptured it on tombs for a double reason—in allusion to the resurrection from the type of Jonah, and because the letters of the Greek word for "fish" are the initials of the name of the Saviour. A device of two fishes with an anchor between them was the seal of two Christian spouses. Coral was anciently considered as an amulet against evil spirits, poison and various dangers. The Gauls therefore adorned their armour and their weapons with it, and it was used for sceptres and divining-rods. Hence originated the gift to infants of a coral-and-bells to preserve them from "the evil eye." Customs long remain after their origin has been almost forgotten. With the classical ancients the dolphin held the same high rank among fishes that the eagle did among birds; it was the symbol of Neptune, as the eagle was of Jove; it was the emblem of the Isthurian games; on coins, joined to a trident or an anchor, it typified freedom of commerce and empire of the sea. The dolphin was supposed friendly to mankind; one that saved Arian on its back when flung overboard by treacherous sailors was raised to the skies as the constellation Delphinus. In Bristol is a munificent charitable institution, the children educated by the funds of which wear the badge of a dolphin in commemoration of the life of the founder, Edward Colston, merchant, having been providentially saved at sea by the circumstance of a dolphin having forced itself into a breach of his storm-tossed ship when on the point of foundering; the leak was thus stopped, and the crew enabled to pump the vessel dry. Before the French Revolution no French subject was allowed to place a dolphin in his armorial bearings, because it was blazoned by the Dauphin in what is called "canting heraldry," a punning allusion to his title, which in fact signified dolphin. The lobster was anciently the symbol of Mars from being always in armour: its red integument renders it still no inappropriate emblem, in England at least. It was also engraved on the coins of some Greek and Sicilian towns. The crab with expanded claws was, whimsically enough, an emblem of ocean, and accordingly placed on the head of Amphitrite, and thence exalted to the Zodiac. And that ugly, shapeless creature, the cuttlefish, or ink-fish, that escapes danger by darkening the water around it with a sudden discharge from its bag of black fluid, was a symbol of the beautiful sea goddess Thetis, because she assumed that shape and used that stratagem among her many metamorphoses when she strove to avoid the mesalliance of a marriage with Peleus, a mere mortal.

NOTES AND COMMENTS.

THE plates of the English cathedrals which have appeared in *The Architect* are utilised very often for decorative purposes. One of the most interesting instances of that use has occurred in the Imperial Yeomanry base hospital at Deelfontein. The chaplain, the Rev. Mr. BLACKBURN, has hung them on the walls of the little chapel, and the wounded troopers prefer them to the chromo-lithographed texts which were intended to be used for the mural decoration. The most rigorous advocate of the exclusion of art in all forms would not, we suppose, object to so simple a mode of adornment, or condemn the yearnings which they excite. When Mrs. HEMANS, the poetess, was on her death-bed in Dublin, she was inspired on the last day of her life, which was a Sunday, to express her emotions in a sonnet. She could not resist, for a vision came before her eyes, that were growing dim, of the English churches she had loved, and the people of the homes she had celebrated in verse proceeding along roads and field paths to attend the services. Probably few of the patients in the Deelfontein hospital have read a line of her poetry, but pain, illness and absence from England have made them also turn their thoughts to the buildings which are a national heritage, and of which the highest and lowest may well be proud. The plates which are hung in the hospital chapel are likely to represent Westminster Abbey, which have a more general interest than those of any single cathedral. The hospital, as everyone knows, has been organised by Lady GEORGIANA CURZON and a committee of noble women. It is described by those who have visited it as being far superior to any of the ordinary military hospitals in its provisions for alleviating the sufferings of the wounded. The buildings were sent out by Messrs. BOLTON & PAUL, of Norwich, and are satisfactory to the medical staff as well as to the patients.

A DECISION of Mr. Justice LAWRANCE in the case CLARKE *v.* EDWARDS & MEDWAY establishes the responsibility of builders for the expenses of "measuring up." The plaintiff is a quantity surveyor, and he was employed by the architect to make out schedules of the extras and omissions in connection with the contract for the erection of a tavern at Wandsworth, which the defendants had carried out. The omissions amounted to 1,830*l.* and the extras to 2,715*l.*, by which the contract amount became 6,465*l.* The owner had paid 5,300*l.* during the progress of the works, leaving a balance of 1,165*l.* It was agreed that of the balance 400*l.* should be paid in cash with seven bills of 100*l.* each, which were to bear interest at 5 per cent. each. The plaintiff claimed 112*l.*, charges which the defendants declined to pay on the ground that he was not the surveyor who took out the quantities originally, and that he was employed by the architect to look after the owner's interests. It was admitted by counsel that builders would be liable for quantities which were taken out for the purpose of tendering; but it was contested that they also should be for the cost of measuring up, as in that case the charges should be paid by the building owner. Mr. Justice LAWRANCE, however, decided in favour of the plaintiff, and the sum claimed, with costs, will have to be paid.

THE Archdeacon of CHICHESTER, in his visitation at the cathedral on Monday, was able to give the clergy and churchwardens information about the condition of the churches in the diocese. He said he had sent out forms asking for information which would not occupy more than half an hour's labour in filling up. The returns did not all come back, but the Archdeacon was able to assure the churchwardens who were present that as a rule the fabrics of the churches in the archdeaconry are reported to be good. At Bramber repairs are now going on. At Ashurst, Cocking, Elsted and Stopham the roofs, however, need repair. At Bosham the condition of the spire of the grand old church is lamentable. The state of St. Martin's, Chichester, is reported as dangerous. At Lurgashall and Oving the spires, so characteristic a feature of Sussex churches, need attention, as also is the case with the nave of Walberton Church and the belfry of South Stoke. But when it is considered that there are close upon two hundred churches in the Archdeaconry of Chichester, many of them of great antiquity, the list of those which will shortly call for attention is not great.

IT is an ill wind which does not blow advantage for somebody, and the experience of South African contests has given an impetus to building on Salisbury Plain. The land had been acquired, and it was contemplated to erect substantial barracks upon it for autumn manœuvres. But, in addition, it has been determined to provide immediate accommodation in a more humble architectural form. Structures of brick, concrete, wood and corrugated iron are to be raised with expedition. In that way shelter will be provided for nearly 20,000 troops. The large barracks will also be erected. It is not impossible that in other districts work will soon be provided for builders by the War Office. Hitherto it was supposed too readily that arms and ammunition were sufficient, but it has become evident from the late experience in Africa that soldiers require training for which Aldershot is not adequate, for they should be made acquainted with as many varieties of surface as are to be found in Great Britain. As ground is likely to be required by the War Office, it is wise policy on the part of the Government to allow local authorities to have some part in securing the sites. The Marquis of LANSDOWNE made the frank acknowledgment that the Government, as a rule, are not very successful buyers. It is very difficult, he said, "for the representative of one of the departments of the State to go into the local land market; and if we try to buy through the officer commanding in the district we sometimes find that a great soldier and an excellent military administrator is likely to be defeated ingloriously by a solicitor in a country town." How far the words are to be taken in connection with the negotiations for the purchase of Salisbury Plain must at present remain unknown.

A GUILD of civic art exists at Toronto, and the members have made a proposal to the city council which must be considered as generous. Last year Mr. REID, one of the members, presented six panels, illustrative of *Pioneering*, for the decoration of the entrance hall to the Municipal Buildings. There are still fourteen vacant panels. The Guild has expressed readiness to have the required paintings carried out at the rate of two a year, provided the city council will contribute 1,000 dollars annually towards the expense. The subjects would be allied to those already painted, and would comprise such incidents as *Clearing Land, Felling Forest Trees, Building a Log Cabin, Treating with Indians, Early Missionaries,* &c. The committee who have charge of the building have listened with attention to the proposals of the representatives of the Guild, but it was declared that the Toronto Treasury had no money which could be applied to mere decoration. Canadian law is more elastic than ours, and it is difficult for those who judge from a distance to understand why 200*l.* a year could not be expended for the encouragement of art. There is no doubt that mural decoration is not only, if properly carried out, a means of educating the community, but it is of an immense service in elevating the style of the artists employed. Although the scheme for the decoration of the Houses of Parliament in Westminster was never fully realised, there can be no question the experiment has had a beneficial influence on the arts of this country, and still more success could be expected from a young country like Canada.

ILLUSTRATIONS.

WESTMINSTER ABBEY: DETAILS OF STALLS, HENRY VII.'S CHAPEL. EXTERIOR, HENRY VII.'S CHAPEL.

SWANSEA ROAD BOARD SCHOOL, READING. GROUND AND FIRST FLOOR PLANS.

READING SCHOOL BOARD.—SWANSEA ROAD SCHOOLS.*

THE Swansea Road schools are the latest erected by the School Board of Reading, and the first school of two storeys built by them on the mixed system. The plans were first prepared in December 1895, and were to be as simple and plain in elevation as possible, and all expensive items of construction and decoration not necessary for the comfort and efficiency of the school or for the stability of the building to be avoided.

Owing to the nature of the soil, which was some 6 feet below the level of the road and of a boggy and spongy nature, with an ancient water-course across the centre of the site, two deep borings were made to ascertain the nature of the subsoil, and to what depth it would be necessary to go to insure a good solid foundation, which from the great weight of the buildings was absolutely necessary. The borings were made in the centre of each end, where the main walls would come. The first few feet consisted of nothing but soft bog, then a little blue clay, below that wet soft ballast, and at 12 feet a bed of running sand, below that good firm ballast, and finally hard chalk at a little over 20 feet from the original meadow. The whole of the ground has since been filled up, and when perfectly solid the playground will be asphalted.

When the site was found to be such a very bad one, the architect strongly advised the Board to build all the walls on piles, and these to be driven until they reached a good solid bottom. This precaution was also absolutely required on account of the necessity of raising the ground floor of the school 2 feet above the level of the great flood of 1894—on that occasion the water stood 2 feet 6 inches above the road outside. Therefore, after careful deliberation the Board requested their architect to consult with the chief engineer of the Great Western Railway, and take his judgment on the matter. Without the slightest hesitation he corroborated fully the opinions placed before him, and affirmed that it would be folly to erect such a building without piling, &c., and so 12-inch piles of pitch pine were driven at close intervals, and Portland cement concrete, 5 feet wide and 3 feet deep, was laid on the top as foundations for the brickwork; and, although a great flood has occurred this year to thoroughly test the work, not the least sign of a settlement has anywhere been discovered. To meet the extra outlay required by the foundations, it was finally decided to omit four classrooms from the Ross Road end, consequently the front elevation is not evenly balanced, as in the original plans, that is to say, the central halls are not in the centre of the building, as seen from the Swansea Road.

The school is designed on the central hall system, and contains on the ground floor a central hall 61 feet 6 inches by 33 feet 6 inches, with an area of 2,060 feet. There are nine classrooms on the ground floor of various sizes for the infants and junior mixed departments, a room for the head-master, and one for the mistress and her assistants, with ample cloak-room and lavatory accommodation.

The first floor consists of a central hall, the same size and area as that on the ground floor, with ten classrooms of various sizes from forty upwards for the senior mixed department, boys and girls. Ample coat and cloak, &c., accommodation is provided in the mezzanine as well as on this floor. An assistant teachers' room is also provided.

A great feature in the arrangement of the schools is the ease with which the children could leave the building in case of a panic or fire. There are no less than five broad exits to the open air, and three fireproof staircases, the central one not being in general use, but always available as an emergency staircase.

The total accommodation provided is for 980 children, but as several of the classrooms have sufficient area for another ten each, the school could accommodate considerably over 1,000.

Lighting.—In all cases there is ample window space, and every classroom has the light coming from the left. Artificial light is provided by gas pendants.

Heating.—All the rooms have open fireplaces, and, in addition, are heated by hot-water pipes from boilers placed in the fireplace openings of the lower central hall. They were placed in this position to preserve them from injury at flood time. Without the open fires a good even temperature can be maintained at a small cost for fuel.

Ventilation.—This is of a very simple nature, and after many expensive experiments in the London schools has been found to answer better than any other. All windows are provided with deep cill pieces, so that by raising the lower part of sash the fresh air comes in above the middle rail like a tobin. The upper part of each window is made to fall back, and, in addition, large tobin tubes are placed in the angles of each classroom. The vitiated air passes away through large gratings taken into separate air flues in each chimney. The total frontage of the main building to the Swansea Road is 164 feet, with a return frontage to the York Road of 62 feet. The total height from the old ground level to the ridge of the central hall is 60 feet, and to the top of the vane on the bell turret is 80 feet.

Cookery Centre.—This building consists of a kitchen and scullery for use as a centre, for the instruction of girls in cookery. The kitchen is planned to accommodate the seating of fifty-four children for demonstration lessons, and is fitted with tables, desks, &c. A coal-fire cooking range is provided, and also gas-cooking apparatus. Kitchen is well lighted from both sides. By means of the opposite windows and a ventilator in roof, an inexpensive and simple means of cross ventilation is provided, and when the class is over, the room can be cleared of all smells in a few minutes. This room is also available as a dinner-room for those girls who have to come from a distance and are unable to go home to dinner. The ground-floor portion is used as a covered play-shed for girls and infants.

Manual Training in Metal-work.—After due consideration by the School Board, it was finally decided, in lieu of a workshop for instruction in carpentry, &c., to provide a school for manual training in metal-work, and this is the first building of its kind erected by the Reading School Board. The building is the outcome of personal visits to the Polytechnic Engineering School and the school at Limehouse, and as Reading is the centre of considerable engineering works, instruction in this particular branch of work will doubtless be of the greatest advantage to boys who may have a desire to learn the preliminary branches of such an essential and lucrative means of gaining a future livelihood. Those boys who have passed through their preliminary training at Limehouse are sought after and employed by Thornycroft's and other large engineering firms, with at least twelve months' advantage over boys who have had no previous training. In the schools mentioned all the machinery is driven by gas engines, but here there is a new departure, viz. a high speed electric motor, which will only occupy a space of 3 feet by 18 inches, and will drive the whole of the machinery and can be switched on and off whenever required. This room is also lighted by electric light at night. Good ventilation is provided, and ample window space as well as top light. Benches, lockers, &c., are provided. The machinery will consist of a fly press, a drilling machine, shearing machine, screw cutting lathes, leg vices, forge, anvil, &c., suitable for a class of fourteen pupils. The ground-floor of this building is also up to date, being a dining-room for boys who live at a distance and are unable to go home to the midday meal, and is fitted up with seats, &c. A covered play-shed for boys is also attached to this building. Ample latrine accommodation is provided in the playgrounds.

Mr. Geo. White has made a most excellent clerk of the works during the building operations, and the contract has been carried out by Mr. W. Hawkins, of Reading. The heating is by Messrs. Russell & Co., of London, and the metal school fittings supplied by Messrs. Mackies, Limited, Reading. Mr. Hawkins also made all the dual desks.

Mr. Geo. W. Webb, F.R.I.B.A., Market Place Chambers, Reading, is the architect.

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[*] See Illustrations.

ARCHITECTURAL ACOUSTICS.—V.*

THE present paper will carry forward the more exact analysis proposed in the last paper.

For the sake of reference the nomenclature so far introduced is here tabulated:—

t = time after the source has ceased up to any instant whatever during the decay of the sound.

$t', t'', t''',$ = duration of the residual sound, the accents indicating a changed condition in the room, such as the introduction or removal of some absorbent, the presence of an audience, or the opening of a window.

$t_1, t_2, \ldots t_n$ = whole duration of the residual sound, the subscripts indicating the number of organ pipes used.

T = duration of the residual sound in a room when the initial intensity has been standard.

i = intensity of the residual sound at any instant.

i' = intensity of minimum audibility.

$I_1, I_2, \ldots I_n$ = intensity of sound in the room just as the organ pipe or pipes stop, the subscripts indicating number of pipes.

I = standard initial intensity arbitrarily adopted, $I = 1{,}000{,}000\, i'$.

w = absorbing power of the open windows, minus their absorbing power when closed = area × (1. − 0·024).

a = absorbing power of the room.

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[*] A paper by Professor Wallace C. Sabine, Harvard University.

$a_1, a_2 \ldots a_n$ = coefficients of absorption of the various components of the wall surface.
s = area of wall (and floor) surface in square metres.
$s_1, s_2, \ldots s_n$ = areas of the various components of the wall surface.
V = volume of the room in cubic metres.
k = hyperbolic parameter of any room.
K = ratio of the parameter to the volume, $aT = k = KV$.
A = rate of decay of the sound.
P = length of mean free path between reflections.
v = velocity of sound, 342 m. per second at 20° C.

Let E denote the rate of emission of energy from the single organ pipe.

$\frac{p}{v}$ = the average interval of time between reflections.
$\frac{p}{v}E$ = amount of energy emitted during this interval.
$\frac{p}{v}E(1-\frac{a}{s})$ = amount of energy left after the first reflection.
$\frac{p}{v}E(1-\frac{a}{s})^2$ = amount of energy left after the second reflection, &c.

If the organ pipe continues to sound, the energy in the room continues to accumulate, at first rapidly, afterward more and more slowly, and finally reaches a practically steady condition. Two points are here interesting—the time required for the sound to reach a practically steady condition (for in the experiments the organ pipes ought to be sounded at least this long), and secondly, the intensity of the sound in the steady and final condition. At any instant the total energy in the room is that of the sound just issuing from the pipe, not having suffered any reflection, plus the energy of that which has suffered one reflection, that which has suffered two, that which has suffered three, and so on back to that which first issued from the pipe, as—

$$\frac{p}{v}E\left[1+(1-\frac{a}{s})+(1-\frac{a}{s})^2+(1-\frac{a}{s})^3+\ldots(1-\frac{a}{s})^n\right],$$

where n is the number of reflections suffered by the sound that first issued from the pipe, and is equal to the length of time the pipe was blown divided by the average interval of time between reflections. The above series, which is an ordinary geometric progression, may be written :—

$$(1)\qquad \frac{p}{v}E\,\frac{1-(1-\frac{a}{s})^n}{1-(1-\frac{a}{s})}\,\frac{s}{a};$$

$\frac{a}{s}$ is by nature positive and less than unity. If a is very large, or if $(1-\frac{a}{s})$ is small this may be written :—

(2) $\frac{pEs}{va}$ = the total energy in the room in the steady condition.

(3) $I_1 = \frac{pEs}{vaV}$ is the intensity of sound in the room as the organ pipe stops. Substituting in this equation the values of a and p already found :—

(4) $a = \frac{KV}{T}$, and

(5) $p = \frac{va}{sA} = \frac{vKV}{sAT}$, we have

(6) $I_1 = \frac{vKV}{AsT} \cdot \frac{T}{KV} \cdot \frac{Es}{vV} = \frac{E}{AV}$. Also

(7) $I_1 = \log_\epsilon{}^{-1} At_1$. Whence

(8) $E = VA \log_\epsilon{}^{-1} At_1$, where the unit of energy is the energy of minimum audibility in a cubic metre of air.

It remains to determine K and a. To this end the four organ-pipe experiments must be made in a room with the windows closed and with them open, and the values of A' and A'' determined. The following analysis then becomes available :—

$a = \frac{KV}{T'}$, and $a + w = \frac{KV}{T''}$, whence

$\frac{a}{a+w} = \frac{T''}{T'}$. But for standard conditions in regard to initial intensity,

$A'T' = A'T'' = \log_\epsilon I = \log_\epsilon(10^6) = 13{\cdot}8$.

$\frac{T''}{T'} = \frac{A'}{A''}$, and $T' = \frac{13{\cdot}8}{A'}$. Substituting these values,

$\frac{a}{a+w} = \frac{A'}{A''}$, and $K = \frac{aT'}{V} = \frac{a\,13{\cdot}8}{A'V}$, whence

(9) $a = \frac{A'w}{A''-A'}$, and

(10) $K = \frac{13{\cdot}8\,w}{V(A''-A')}$. Or if K has been determined, (9) may be written

(11) $a = \frac{A'KA}{13{\cdot}8}$, a useful form of the equation.

From equations (1) and (2) we may calculate the rate of growth of sound in the room as it approaches the final steady condition. Thus, dividing (1) by (2), the result, $1-(1-\frac{a}{s})^n$ gives the intensity at any instant $n\frac{p}{v}$ seconds after the sound has started, in terms of the final intensity. Of all the rooms so far experimented on, the growth of the sound was slowest in the lecture room of the Boston Public Library in its unfurnished condition. For this room $\frac{a}{s} = 0{\cdot}037$, and $p = 8{\cdot}0$ metres. The following table shows the growth of the sound in this room, and the corresponding number of reflections which the sound that first issued from the pipe had undergone.

Lecture Room, Boston Public Library.

n	Time.	Average Intensity.
1	0·02	0·04
5	0·11	0·17
10	0·23	0·31
15	0·34	0·43
20	0·46	0·53
30	0·69	0·68
40	0·92	0·78
50	1·15	0·85
1·00	2·30	0·98
1·50	3·45	0.997
∞	∞	1·00

It thus appears that in this particular room the organ pipe must sound for about three seconds in order that the average intensity of the sound may get within 99 per cent of its final steady value. As throughout this work we are concerned only with the logarithm of the initial intensity, 99 per cent. of the steady condition is abundantly near. This consideration—the necessary length of time the organ pipe should sound—is carefully regarded throughout these experiments. It varies from room to room, being greater in large rooms and less in rooms of great absorbing power.

To determine the value of E, the rate of emission of sound by the pipe, formula (8), $E = VA\log_\epsilon{}^{-1}At_1$ is available. It is here to be observed that as this involves the antilogarithm of At_1, these quantities must be determined with the greatest possible accuracy. The first essential to this end is the choice of an appropriate room. Without giving the argument in detail here it leads to this, that the best rooms in which to experiment are those that are large in volume and have little absorbing power. In fact for this purpose small rooms are almost useless, but the accuracy of the result increases rapidly with an increase in size or a decrease in absorbing power. On this account the lecture-room of the Boston Library in its unfurnished condition was by far the best for this determination of all the available rooms. Inserting the numerical magnitudes obtained in this room in the equation $E = VA\log_\epsilon{}^{1-1}At_1 = 2140 \times 1{\cdot}59 \times \log_\epsilon{}^{-1}(1{\cdot}59 \times 8{\cdot}69) = 3{,}400{,}000{,}000$. If the observations in the same room after the introduction of the felt already referred to are used in the equation, the resulting value of E is 3,200,000,000. The agreement between the two is merely fortunate, for the second conditions were very inferior to the first, and but little reliance should be placed on it. In fact in both results the second figures, 4 and 2, are doubtful, and the round number 3,000,000,000 will be used. It is sufficiently accurate.

The next equation of interest is that giving the value of K, number (10).

$$K = \frac{13{\cdot}8\,w}{V(A''-A')}.$$

It contains the expression $A''-A'$, the difference between the rates of decay with the windows open and with them closed; A'' and A' depend linearly on the difference in duration of the residual sound with four organ pipes and with one, and as both sets of differences are at best small, it is evident that these experiments also must be conducted with the utmost care and under the best conditions. The best conditions would be in rooms that are large, that have small absorbing power, and that afford window area sufficient to about double the absorbing power of the room. Practically this would be in large rooms that are of tile, brick or cement walls, ceiling and floor, and have an available window area equal to about one-thirtieth of the total area.

The lobby of the Fogg Art Museum, although rather small, best satisfied the desired conditions. Sixteen organ pipes were used, arranged four on each air tank, and therefore near together Thus arranged, the sixteen pipes had 7·6 times the intensity of one, as determined by a subsequent experiment in the Physical Laboratory. The following results were obtained:—

$$A' = \frac{\log_\epsilon 7{\cdot}6}{t'_{16} - t} = \frac{\log_\epsilon 7{\cdot}6}{5{\cdot}26 - 4{\cdot}59} = 3{\cdot}0, \text{ and}$$

$$A'' = \frac{\log_\epsilon 7{\cdot}6}{3{\cdot}43 - 3{\cdot}00} = 4{\cdot}7,$$

$$K = \frac{13{\cdot}8w}{V(A'' - A')} = \frac{13{\cdot}8 \times 1{\cdot}85}{96 \times 1{\cdot}7} = {\cdot}156.$$

Here, however, it is easy to show by trial that errors of only one-hundredth of a second in the four determinations of the duration of the residual sound would, if additive, give a total error in the result of 20 per cent.

It is impossible, especially with open windows, to time with an accuracy of more than one-hundredth of a second, and therefore this formula $K = \frac{13{\cdot}8\,w}{V(A'' - A')}$, while analytically exact and attractive in its simplicity, is practically unserviceable on account of the sensitive manner in which the observations enter into the calculation.

The following analysis, however, results in an equation much more forbidding in appearance, it is true, but vastly better practically, for it involves the data of difficult determination only logitharmically, and then only as part of a comparatively small correcting term. For the room with the windows closed, $A'\,t'_1 = \log_\epsilon I'_1$, and for standard conditions in regard to initial intensity

$A'\,T' = \log_\epsilon I$, whence

$T' = t'_1 - \frac{1}{A'}\log_\epsilon \frac{I_1}{I}$

$T'\,a = K\,V$, hence

$K\,V = t'\,a - \frac{a}{A'}\log_\epsilon \frac{I'_1}{I}$; and similar steps for the same room with the windows open give

$$K\,V = t''_1\,(a + w) - \frac{(a + w)}{A'}\log_\epsilon \frac{I''_1}{I}.$$

Multiplying the first of the last two equations by t''_1, and the second by t'_1, and subtracting

$$K = \frac{1}{(t'_1 - t''_1)\,V}\left[w\,t'_1\,t'_1 + \left(\frac{at'_1}{A'}\log_\epsilon \frac{I'_1}{I} - \frac{(a + w)\,t'_1}{A''}\log_\epsilon \frac{I'_1}{I}\right)\right].$$

By equation (5)

$\frac{v\,a}{sA} = p$, whence

$\frac{a}{A'} = \frac{sp}{v}$; and similarly

$\frac{a + w}{A''} = \frac{sp}{v}$. Substituting these values in the above equation,

(12) $$K = \frac{1}{(t'_1 - t''_1)V}\left[w\,t'_1\,t''_1 + \frac{sp}{v} \times \left(t''_1\log_\epsilon \frac{I'_1}{I} - t'_1\log_\epsilon \frac{I''_1}{I}\right)\right].$$

As an illustration of the application of the last equation, the case of the lobby of the Fogg Art Museum is here worked out at length :—

$t'_1 = 4{\cdot}59.$

$t''_1 = 3{\cdot}00.$

$V = 96$ cu. m.

$s = 125$ sq. m.

$w = 1{\cdot}86.$

$a = \frac{0{\cdot}171\,V}{t'_1} = 3{\cdot}58$ as a first approximation.

$p = 2{\cdot}8.$

$I'_1 = \frac{pEs}{vaV} = 8{\cdot}8 \times 10^6\,i'.$

$I''_1 = \frac{pEs}{v(a + w)V} = 5{\cdot}8 \times 10^6\,i.$

Substituting these values in the above equation, there results

$$K = \frac{1}{152}[25{\cdot}7 + 1{\cdot}02\,(6{\cdot}53 - 8{\cdot}1)]$$
$$= 0{\cdot}169 - 0{\cdot}010 = 0{\cdot}159,$$

where the term 0·169 is the value of K that would be deduced disregarding the initial intensity of the sound, −0·010 is the correction for this, and 0·159 is the corrected value of K. The magnitude, as well as the sign of this correction, depends on the intensity of the source of sound, the size of the room and the material of which it is constructed, and the area of the windows opened. This is illustrated in the following table, which is derived from a recalculation of all the rooms in which the open window experiment has been tried, and which exhibits a fairly large range in these respects :—

Room.	V	I'_1	w	Uncorrected.	Corrected.	K
Lobby Fogg Mus. .	96	8,800,000	1·86	0·169	−0·010	0·159
Lobby Fogg Mus. .	96	67,000,000	1·86	0·191	−0·027	0·164
Jeff. Phys. Lab., 15	202	1,700,000	5·10	0·164	+0·005	0·169
Jeff. Phys. Lab., 1 .	1,630	390,000	12·0	0·150	+0·017	0·167
Jeff. Phys. Lab., 41	1,960	300,000	14·6	0·137	+0·024	0·161

Average value of $K = 0{\cdot}164$

The value of $K = 0{\cdot}164$ having been adopted, interest next turns to the determination of the absorbing power a of a room. For this purpose we have choice of three equations, two of which have already been deduced :—

(9) $$a = \frac{A'w}{A'' - A'}, \text{ and}$$

(11) $a = \frac{A'KV}{13{\cdot}8}$, and a third equation may be obtained as follows. It has been shown already that—

$$T' = t'_1 - \frac{sp}{va}\log_\epsilon \frac{I'_1}{I}, \text{ and}$$

$T'a = KV$. Therefore—

$$a\,t'_1 - \frac{sp}{v}\log_\epsilon \frac{I_1}{I} = KV, \text{ and}$$

(13) $$a = \frac{1}{t'_1}\left(KV + \frac{sp}{v}\log_\epsilon \frac{I'_1}{I}\right).$$

Of these three equations the first (9), for reasons already pointed out in regard to a similar equation for K, while rigorously correct, yields a result of great uncertainty on account of its sensitiveness to slight errors in the several determinations of the duration of the residual sound. The second, (11), is very much better than the first, but still not satisfactory in this respect. The third (13) is wholly satisfactory. It has the same percentage of accuracy as t'_1, and the only elements of difficult determination enter logarithmically in a small correcting term.

As an illustration of the application of these equations we may again cite the case of the lobby of the Fogg Art Museum :—

by equation (9) $a = \frac{3{\cdot}0 \times 1{\cdot}86}{4{\cdot}7 - 3{\cdot}0} = 3{\cdot}3$;

by equation (11) $a = \frac{3{\cdot}0 \times {\cdot}164 \times 96}{13{\cdot}8} = 3{\cdot}4$;

by equation (13) $a = \frac{1}{4{\cdot}59}(0{\cdot}64 \times 96 + 1{\cdot}02 \times \log_\epsilon 8{\cdot}8) = 3{\cdot}8.$

The first two are approximate only; the last, 3·8, is correct, with entire certainty in regard to the last figure.

There is but one other subject demanding consideration in this way—the calculation of the absorbing power of objects brought into the room, as cushions, drapery, chairs and other furniture. This may be approached in two ways, either by means of the rate of decay of the sound and the four-organ-pipe experiment, or by open window calibration and a single organ pipe.

Let A''' be the rate of decay when the object is in the room, A' being the rate when the room is empty. Then, if a is the absorbing power of the object,

$$a = \frac{A'\,KV}{13{\cdot}8}, \text{ and}$$

$$a + a' = \frac{A'''\,KV}{13{\cdot}8}. \text{ Whence}$$

(14) $$a' = (A''' - A')\frac{KV}{13{\cdot}8}.$$

Or, from the other point of view, equation (13),

$$a = \frac{1}{t'_1}\left(KV + \frac{sp}{v}\log_\epsilon \frac{I'_1}{I}\right),$$

$$a + a' = \frac{1}{t'''_1}\left(KV + \frac{sp}{v}\log_\epsilon \frac{I''_1}{I}\right), \text{ whence}$$

(15) $$a' = \frac{KV(t' - t'''_1)}{t'_1t'''_1} - \frac{sp}{v}\left(\frac{1}{t'_1}\log_\epsilon \frac{I_1}{I} - \frac{1}{t'''_1} - \log_\epsilon \frac{I'''_1}{I}\right);$$

where I'_1 and I'''_1 are to be calculated as heretofore by a preliminary and approximate estimate of a and a'.

Here also it is easy to show *à priori* that the first equation (14), while perfectly correct and analytically rigorous, is excessively sensitive to very slight errors of observation, and that on this account equation (15) is decidedly preferable. For example, felt being brought into the lobby of the Fogg lecture-room and placed on the floor, the values of A''' and t'''_1 we determined to be, respectively, 4·9 and 2·79. Borrowing the preceding experiment, and substituting in equations (14) and (15), we have

$$a' = (4{\cdot}9 - 3{\cdot}0)\ \frac{{\cdot}164 \times 96}{13{\cdot}8} = 2{\cdot}2,$$

$$a' = \frac{{\cdot}164 \times 96\ (4{\cdot}59 - 2{\cdot}79)}{4{\cdot}59 \times 2{\cdot}79} -$$

$$1{\cdot}02\left(\frac{1}{4{\cdot}59} \log_\epsilon 8{\cdot}8 - \frac{1}{2{\cdot}79} \log_\epsilon 6{\cdot}1\right) = 2{\cdot}4\ ;$$

a very satisfactory agreement in view of the extreme sensitiveness of equation (14).

Thus three equations have been deduced, number (12) for the calculation of the parameter, *k*, (13) for the absorbing power, *a*, of the wall surface, and (15) for the absorbing power, *a′*, of introduced material. Each has been verified by other equations analytically rigorous and developed along very different lines of attack. In each case the agreement was satisfactory, especially in view of the extreme sensitiveness of the equations used as checks.

In the succeeding paper will be deduced, by the method thus established, the coefficients of absorption of the materials that are used ordinarily in the construction and furnishing of an auditorium.

NATURE AND ART.

AT the annual meeting of the Manchester Art Museum, which was held last week, Viscount Peel delivered an address. According to the *Manchester Guardian*, he said that, curiously enough, that was his first visit to Manchester. He supposed he might roughly say that the object of the art museum was to promote a knowledge of nature and to teach the true principles of art—everything that was beautiful in nature or in art. He might add that one of their objects was to spread a knowledge of wholesome literature. He was well aware that they had no books attached to their museum. Perhaps in time, when their funds were in a more flourishing condition, that might be added to the resources of their institution. But they were in the neighbourhood of the Ancoats Branch Free Library. They were surrounded with other institutions, and their work necessarily took their students to books, and from books back to nature. He had read with some pain in their annual report of the imperfect knowledge of natural objects which was shown by children of the poor in Manchester. He knew it was almost an inevitable consequence of their position that some of them should hardly understand what were the natural objects with which they were surrounded in this world of ours. They had an imperfect knowledge of what they read in books, because they had an imperfect knowledge of that which those books described. It was painful to find that they really did not know except by books what were the birds and beasts of the country. How could they, in the purlieus and slums of our great cities, get to nature? They lived in an artificial world, utterly separated and divorced from nature, so that they were unable to understand, for instance, the allusions in that great poet of nature, Cowper. The child who had seldom been out of the dirty and grimy streets could hardly understand him when he spoke of "the ten thousand warblers that charmed the day, and one the livelong night." They would hardly know what a nightingale was. The object of their museum and their efforts was, he took it, first to take the child to nature, and to bring nature home to the child, by illustrating it with the objects of nature around it, and with pictures of birds and beasts, not only telling what these were, but what were their habits and where they lived. Certainly Manchester must be included among those vast cities where much required to be done. He was the last person to decry or to undervalue the work which our great municipal corporations had done and were doing in the way of purifying the material life of big towns. He knew very well that they were spending vast sums of money and transforming what were hideous places of residence into, at all events, decent spots which a human being could inhabit. But much remained to be done. It was perhaps, if he might say so without irreverence, in our big towns that there were required "a new heaven and a new earth;" that was to say, large spaces interposed among the masses of houses and purer air above, so that life should not be continued in the monotony and sordidness amid which the lives of too many of our countrymen were spent, under a canopy of smoke which could not contribute to healthy vitality or the development of the mind or body. He had touched upon nature, and would now say a few words about art. He had alluded to nature first for, as Pope said, nature was "the end, the source, the test of art," and all that was valuable in art must be and could be valuable only because it referred to and was based on the principles which nature taught us. They desired to bring home beautiful objects, the work of man's hand, the masterpieces of the human mind, and to do so in the poorest house and to the commonest intelligence amongst them. It was a great and noble object. Perhaps some who listened to him had been in the eastern parts of London, such as Whitechapel. It was a curious thing that only the previous day he was speaking to Canon Barnett, warden of Toynbee Hall, and when he mentioned that he was coming down there Canon Barnett repeated what he had written a few days ago, that he got the first idea of setting up a Whitechapel picture gallery from a hint that Mr. Horsfall let drop on the subject. He had mentioned the fact to Mr. Horsfall, who told him that Canon Barnett was one of the instruments in the formation of their University Settlement, so that while they had given a hint to Whitechapel, Whitechapel returned the compliment. Of course he knew the mere putting of pictures on the wall was not enough. People would pass by things which were masterpieces with a stare, and fasten on common pictures that represented something modern. But they must begin somewhere. It was few of them who understood the masterpieces of art, which by the world's universal acknowledgment were the greatest products of the human hand. It was not everybody who would appreciate the finest Raphael, Rembrandt, Vandyke or Velasquez. They required to be trained. When they got to know how the effects were produced the value of the work was enormously increased, and they began to see beauties in it that, without the training, they would perhaps not have seen. So if they introduced good subjects of art and covered their walls with them there would be a response to what was beautiful, and before long a man who had looked with pleasure at some tawdry work or some vulgar scene would turn from it and feel a great refreshment when he looked at the other. His whole moral temperament would receive an ennobling impulse. It was a great object, therefore, that they had in view; just as in taking the children to nature they might teach them the beauties of nature, so in art they might do something to teach the highest principles. In our appreciation neither of nature nor art could we attain perfection. Shakespeare put into the mouth of Lorenzo, who was not perhaps a very worthy character to deliver the sentiment, words that were meant to inculcate the fact that there was an angelic harmony in "the smallest orb" that studded "the floor of heaven." But he added with regret—

> But whilst this muddy vesture of decay
> Doth grossly close it in, we cannot hear it.

We might not be able to appreciate what was really and truly of the highest value either in nature or art, but so long as we lived we might at least improve our tastes, and in so doing we should insensibly raise our whole nature. We should discard what was low and mean and vulgar, and have some qualifications for appreciating that which was higher and better. Might he say a few words on books? It was not, perhaps, immediately their object to spread a knowledge of books, but they did insensibly and indirectly disseminate a knowledge of true and sound literature. It was curious to look back as regarded books over the short period of 250 years. It was a recorded fact that in the year 1651 the gift of books was made to some of their parishes in the immediate neighbourhood of Manchester, and those books had to be chained to the shelves. Of course, there were many Bibles still chained to their desks, and they saw in the old libraries of Oxford and Cambridge books that were so secured. He was curious to know if there was any record of the chained books which were presented in 1651—if his memory served him aright—to parishes in the immediate neighbourhood of Manchester, as it then was a small town. What a contrast between those days when books were chained because of their rarity and the books of to-day. Our difficulty was not the rarity but the multiplicity of books. It was not to find them but to know what to read amongst the books we had, and he thought a useful function might be performed by any institute or museum if they disseminated good literature by means of portable libraries. Lord Peel went on to describe the success of such a movement by an institute in Cambridgeshire which had adopted it during the last five or six years. The books lent to various parishes or districts were such as were likely to be required by the character of the industry or the predilections of the people, treating of the subjects of agriculture, horticulture and natural science, together with works on general subjects. Lord Peel commended also the great care which was taken of the books that were lent for reading. He suggested to a reader that he should confine himself in his serious reading to one book at a time, even if lighter literature were taken at the same time. In concluding, he said that it must be a reflection of intense satisfaction to everybody who was engaged in the particular work of that museum that they were bringing the children of the rising generation to nature and bringing nature to them; that they were teaching what was beautiful in nature and art, inculcating sound and healthy amusements, developing the taste and raising the character and brightening and lightening the lives of the toilers. These were, indeed, imperial works. We lived in an age of great military triumphs which, though not on a scale of some past triumphs in the history of the British army, yet had, from the circumstances of the day, brought about a closer union between class and class and person and person, and had aroused an amount of enthusiasm which not only thrilled us all here in the seat and heart of the empire, but which went out to the extremest limits of Her Majesty's dominions. We were proud of this as we were proud of our progress in the arts and sciences. Something more required to be done, and that gap they were filling there by means of an institution which they had set on foot and were working so successfully. For convinced he was that material progress and military triumphs were not enough. They must teach something else than a desire of glory or boastfulness in our mere material advancement. They must teach what it was to love nature, to look from nature up to nature's God. They must feel that there was something else required in the inhabitants of our great towns than the sordid life and amusements—if they might be so called—which were now alone what were open to them. If they could improve them in this respect, and if others throughout the length and breadth of this land could do the same, then we should, if we did not actually deserve, in some sense qualify ourselves for deserving the description of this great nation as "a wise and understanding people."

ARCHITECTURAL SOCIETY OF DURHAM AND NORTHUMBERLAND.

A VERY pleasant and successful visit was made on the 22nd ult. by the members of the above Society to the ancient and strangely situated church of Ebchester, thence to the church at Medomsley, which was said to retain portions of twelfth-century work, and afterwards to Lanchester for an inspection of the Roman station and the charming parish church there.

Within the picturesque churchyard which surrounds the first-named building, the president of the Society (the Rev. W. Greenwell, D.C.L.) addressed the members on the antiquities of the church, pointing out that it was placed within a Roman camp, a station of some importance upon the great road, Watling Street. There was no evidence historically to show what was the date of the Roman camp at Ebchester, and he took it that like all Roman camps in Watling Street it belonged to an early time of the Roman occupation, because they would see that it was absolutely necessary when the Romans took possession of the North of England and occupied it, when they made their great Watling Street, they must necessarily have that great line of communication fortified by camps. Therefore he took it that Lanchester, Ebchester, and, indeed, the whole of the line of camps in Watling Street belonged to the early period. At Lanchester, which they would visit later, certainly they had the evidence of coins. He did not say that the coins absolutely proved the time at which the place was occupied, but still when they found coins of the early emperors after the time when the Romans took possession of Great Britain, it afforded certain presumption that there was early occupation there by the Romans. If Lanchester were such an early camp, so then must be Ebchester adjoining. The rev. President proceeded to refer to the establishment of a convent by Ebba, the daughter of King Athelfrith, and sister of King Oswald and King Oswi, kings of Northumbria. Dr. Greenwell quoted the for and against as to the probabilities of the founding by Ebba of this religious house for females. It was said to have been destroyed, but there was no evidence of its founding or destruction. Proceeding to speak of Bishop Pudsey, of whom there first was historical account, he said they knew he gave all the site of this supposed convent to his newly-founded hospital for lepers at Sherburn, a place he very richly endowed with possessions over the whole of his diocese. The rev. gentleman, after speaking of the hospital and of the transfer of the advowson of this land to the present incumbent, went on to speak of the church, and at the outset expressed the fear that, as so often, a great deal of damage had been done to ancient features by restoration. The church looked like one of the early part of the twelfth century, but there was no historical evidence of the point, and they must be simply guided by the architectural features.

Mr. Knowles described the interior of the building, and reminded those present of the Roman altar standing outside and various other inscribed Roman stones which were evidences of Roman occupation of the neighbourhood. The church was a very early one, and in a sense complete; that was, the foundations were the same as originally built, but it was not so early as Escomb, or the earlier parts of Jarrow or Monkwearmouth churches. It was one of the class they saw a little while ago at Long Framlington, Throcklington, Birtley and two or three others. It comprised a chancel and nave and a little modern south porch. After pointing out some architectural features, which he characterised as significant of an early period, Mr. Knowles said, in answer to Dr. Greenwell, that he thought the date of the first building to be 1120, 1130 or 1140.

From Ebchester the party drove to Medomsley, a charming ride, which brought them to the gates of the interesting old church, thoroughly pleased with the few miles' spin through a country side richly wooded and wide of prospect. The first business was luncheon, partaken *al fresco*, after which the President briefly commented upon the parish church. He referred to the connection of the Hunters with Medomsley, of which there were two lines living, one in Northumberland and the other in Scotland. He produced the seal of William of Medomsley, dated 1180, "William the Hunter," showing a time when surnames were coming into use. They might very fairly assume that William the Hunter was the ancestor of the family of Hunter.

Mr. Knowles pointed out the architectural features of the church. He remarked that, unlike many churches, Medomsley had not been added to in the conventional manner. The extent of the first church was clearly from the south door eastwards to a point below the middle window of the chancel, but afterwards early in the thirteenth century there was an extension eastwards and westwards. The east end was altogether beautiful work, and in some respects peculiar. He dealt in detail with the building, and drew attention to the beauty of the chancel work.

The party then drove on to Lanchester, which was reached about 3.30. Here the excursionists were treated to another address by the President. The walls of the camp here appeared, he said, to have been originally 12 feet high, commencing at the bottom with a width of 8 feet, and narrowing to 4 feet at the top. On the inside of the wall were steps, which made it easy for the soldiers to quickly ascend and defend the walls. On the outside the wall was perpendicular, and was constructed inside of a sort of rubble masonry, with large stones and a good deal of gravel and mortar. They would see how good the mortar must have been and how well the wall had been constructed, for in spite of all the facing stones being taken away the wall stood to the present day. Up to about 1730 or 1740 the camp was an uncultivated piece of ground covered with brushwood, and there were remains of the various buildings inside the camp to be seen rising here and there above the walls, and the gates were in a more or less perfect condition; the pillars were standing, or some of them, and the whole of the arrangements connected with the gates were in almost as good condition as when built. He was sorry to have to say his great-great-grandfather destroyed all that. At that time people did not care a great deal about ancient buildings, and he found the station a very convenient quarry, for he happened to want to rebuild or build some farmhouses, and he took stones from the station to build them. He (Dr. Greenwell) had no doubt if they were to pull down those farmhouses now, they would find a great many valuable Roman stones with sculptured inscriptions upon them. His ancestor also had the camp levelled and brought into a much more useful condition by making it first-rate pasture land. As to the date of the camp it must have been built very early, because it was absolutely necessary that there should be these stations at an early period of the occupation, and that was also shown in a conclusive manner by the coins which had been found in very great numbers at various times there, many of them going back to very early times of the Roman occupation. The finding of coins of a certain date did not prove absolutely that the camp was built at the time of the issue of the coins, but still there was a certain amount of presumption in it. The rev. gentleman, arguing from the standpoint of the coins, said they might say this camp was in existence from about the year 100 A.D. to about 400 A.D. That it must have been in the occupation of the Romans for a very considerable time was also shown by two inscriptions recording two certain buildings having been built, or rather one newly erected, and the other restored by the Emperor Gordian III., who reigned from 238 A.D. to 244 A.D. The first was the Principia and the Armamentaria, and the stone recording the rebuilding of these two places was found inside the camp, as they naturally would have expected it to be, because the Principia were the quarters of the officers and the troops occupying the camp, and also the place where the standards and various other insignia of the troops were deposited. The Armamentaria was the arsenal, where all the weapons of war were manufactured and kept. If these were restored by Gordian they must have fallen into decay, and therefore must have been standing a considerable number of years before they got into that condition which required restoration. The other stone found outside the camp records his building, *de novo*, of the baths and Præcipitium, probably to mean built entirely anew. The President went on to describe the excellent arrangements of the camp in sanitary matters, and particularly in regard to the water supply, which was brought from two or three prolific streams into a reservoir to the west of the camp by two lines of aqueduct, one running three miles to the north and the other one and a half miles to the south, which showed how careful the Romans were to have an adequate water supply. What remained to-day to record the buildings was a single slab in the cathedral library at Durham. As to the name of the camp, he expressed doubt, but hoped possibly some day an inscription might turn up mentioning its name. It was garrisoned by a portion of the great 20th Legion and two other bodies of men drawn from the North of Spain and from France. Wherever the Romans went they fortified in the most orderly and scientific manner. Everything was done according to regular rule and system, and therefore they found one camp like another, laid on the same plan, the various buildings, the Forum, the place where they transacted business; the Prætorium, where the general in command lived; the Principia, where the officers lived—all were the same, and nothing could exceed the regularity of the arrangements, just as all the arrangements of the great Roman Empire were made. Rome was the centre, and from Rome proceeded all roads which led to the very extremity of the empire. Dr. Greenwell expressed the hope that some day excavations would be carried out at this station, such as they were not now able to afford. The whole system of the camp was there, rising for about 45 or 46 feet, and if they were to take off the soil which covered it now they would be able to lay bare, as had been laid bare to a great extent in one or two other places, the wonderful remains of this camp. Unfortunately they had not any South African millionaires. He did not think he would live to see it done, but possibly some of them might. If only they could get some one to give a couple of hundred thousand pounds they might lay bare the whole of the stone, and put something into their pockets as well, and it would be a very good work if they could have the whole of the camp properly explored. The first thing which led him to turn his attention towards archæological matters was what he did there. As a boy he saw there a very large squared stone, and on clearing away a portion of the soil he found it opened into a square opening. In conjunction with one of his brothers they got an old fish kettle, and they gradually worked away underneath for 40 or 50 yards under the camp until they came to where the line of what was a sewer diverged into two lines, and although they were young these were too small for them to get along. He believed it was to the clearing out of that sewer, displaying the system of drainage of the Roman camp, was due his first turning attention to things belonging to old times He had gone on struggling in archæology, and he hoped that his, and all archæological investigations, would be of some use in the world.

A move was made next for the parish church, and the conclusion of the trip. There signs of repair were manifest. The fine old chancel was boarded in, and to be inspected had to be reached by the vestry door, and was found to be in the hands of workmen and quite unrecognisable, save in some singularly striking archæological features. From the church pulpit the President gave an address on the parish of Lanchester, which was one of the great manors of the see of Durham. The Bishop of Durham was far more than an ordinary bishop, both in point of property and of jurisdiction and power, for he was a Prince Palatine, of which rank there were very few. Lanchester was one of the largest manors of the see, and so also it was, until it was divided into a great number of smaller parishes, one of the largest parishes in the county. There was no evidence that there was a church before the time of the Conquest, although it seemed almost impossible to conceive that there should not have been one when they had churches throughout the county dating before the Conquest, and that this place was the site of a Roman settlement, where a great number of people must have been gathered together after the Roman soldiers had left. But again, there was a record of such ancient pre-Conquest churches, for where they did not find remains of the church itself they almost always found remains in the shape of sepulchral crosses, which were erected at the heads of graves of people buried at times before the Conquest, which were called Saxon crosses. Nothing of the kind was found at Lanchester, but still they must conclude there was a church. Up to a certain period the church was rectorial. In 1283 Bishop Beck made it into a collegiate church, consisting of a dean and seven prebendaries, and a portion of the houses still existed, called the deanery, a little to the north of the church, which he believed to have been originally built in the earlier part of the twelfth century. It was one of the very finest churches in the diocese of Durham, and he did not know where they would see others with more beautiful or better proportioned architecture. He pointed to shafts in the north side made of a single stone from the Roman station. He knew of only two other instances, one where the south aisle centre arches were supported in similar circumstances. The chancel arch belonged to the original building, and was a very fine example of the architecture of the earlier part of the twelfth century, and was as handsome an arch of its kind as could be seen anywhere. Dr. Greenwell called attention to several other very interesting features, and mentioned some particularly fine stained-glass and a beautiful carving above the door on the north side leading to the vestry, which was well worthy of examination. He also directed observation to the peculiar features of the south door. After a few words from Mr. Knowles the party visited the chancel viâ the vestry door, and made a short inspection. Dinner at the Queen's Head Hotel wound up a most enjoyable day's proceedings.

EXPLORATION OF URICONIUM.

AT the annual meeting of the Shropshire Archæological Society a report was read which announced the temporary suspension of the movement for further excavations on the site of Uriconium, which was inaugurated at the annual meeting last year. It was impossible at that time to foresee the course which events were about to take, especially that a few months would see the country engaged in a war which would absorb the interest and claim the pecuniary help of everyone to an extent unprecedented in the present generation. Those unforeseen circumstances had caused great anxiety to the Council as to the best course to pursue. After careful consultation with the Council of the Society of Antiquaries, and also with Lord Barnard, it had been decided not to press the matter forward till the present difficulties had to some extent passed by. Another year would probably show a different aspect of things, and as soon as the Society of Antiquaries and the Shropshire Council were agreed that the fitting time had arrived, the work would be resumed, and, it was hoped, prosecuted without interruption until complete. Meanwhile the Council could only express their gratitude to the many subscribers to the Excavation Fund, the balance of which had been placed in the bank on deposit till required for its purpose, and they ventured to hope that when operations were resumed it would be found that the work had in no way suffered from a suspension which was unavoidable.

The Chairman (the head-master of Shrewsbury school) in moving the adoption of the report and accounts, said it would be a disgrace to Shrewsbury if its archæological interest were not keen. How very few places there were within the limits of the British Isles which had any place of such great interest as Uriconium. Spending so much of his time as he did on the conditions and circumstances of the life which spread itself from Rome into the remotest parts of the Roman Empire, he could not but feel deeply interested in the progress of those excavations, and he sincerely trusted that the interruption which had unfortunately taken place—he was afraid there was no help for it—might be only temporary, and that before long, under happier auspices than this year of war and pecuniary distress, the excavations might be resumed and carried to a satisfactory completion. None could conceive what treasures to the antiquary lay hidden in the soil which was not yet disturbed by the spade.

SOMERSET ARCHÆOLOGICAL AND NATURAL HISTORY SOCIETY.

THE northern branch of this Society had their first excursion for the season on the 16th inst. The party met at Temple Meads station, Bristol, whence they were conveyed in a large break to Dundry Church. Here they were met by the Right Hon. Sir Edward Fry, president of the parent society, and a considerable number of local members who had driven direct from various places. They were conducted over the church by the Rev. H. F. Mann, who told them all he could about the building and its history. Mr. F. Were, of Gratwicke Hall, Flax Bourton, one of the honorary secretaries of the branch, also gave many interesting details relating to the history of Dundry and its church, and of various families who had been connected with the place. Mr. F. A Wood, of Highfield, Chew Magna, also added to the store of local lore. Some of the party ascended the tower, but, unfortunately, the grand view usually obtained from the top was marred by the prevalence of a mist. When they left Dundry the party drove to Maes Knoll, where they were most cordially greeted by Mr. and Mrs. E. J. Thatcher, of Firfield House, Knowle, who had erected a tent and provided a bounteous tea for the visitors. This hospitality was thoroughly enjoyed and was duly acknowledged by Sir Edward Fry and Mr. Wood in the name of the Association. Both these gentlemen also gave a good deal of information as to the meaning of "Maes Knoll" and the probable use of the camp. Mr. Thatcher gave a comprehensive outline of the views held by various local historians respecting the camp, and also exhibited a collection of Roman coins found in the neighbourhood. The party rambled about the camp for some time, inspected the remains of Wansdyke and then drove back to Bristol by way of Whitchurch and Knowle, having had a most enjoyable excursion. Mr. F. Were was heartily thanked for his admirable arrangements.

SOME UNFAMILIAR MASTERPIECES OF ITALIAN ART.*

In calling my paper "Some Unfamiliar Masterpieces of Italian Art," I need hardly say that the pictures which I shall have the pleasure of showing you this evening are not unknown to students and experts, and those of us who have had leisure to explore the more remote parts of Italy; but I think I may safely say that they are unfamiliar to the large majority of travellers in that country. The great artistic centres of Milan, Venice, Bologna, Florence, Perugia, Siena and Rome are well known, and I have therefore not included any work of art from those towns in my list to-night, with the exception of two or three in private houses, which have been photographed recently. I have made a sort of potpourri of pictures to be seen in small towns and villages, and by the help of a map I will point out at the end of the paper where they are to be found and how to get there, in case any of you feel tempted to go and see the originals for yourselves. I may add that the scenery alone often more than repays the time and trouble taken, and in these out-of-the-way districts one gains a varied and intimate acquaintance with one of the most picturesque countries in the world.

In showing a succession of slides representing works belonging to different schools, different centuries and different provinces, it has been a little difficult to keep to a chronological order. As far as possible I have done so, but it has not always been feasible. I have also had to leave out the work of several artists because it would have made my paper too long and complicated to have included more. I have introduced some because they are not represented, or inadequately represented in our National Gallery, and it is only when one visits their native town or province that we can realise how great these artists really were.

In this slight sketch I have not attempted to go into the minute details that modern scientific research demands. It would take far too long, though I do think a knowledge of that system is the most satisfactory way of getting the essential qualities and distinctions of the various schools clearly and definitely fixed in one's mind.

I shall ask you to accompany me in a little "giro" through Italy, taking the pictures of the various schools in the following order:—

First, some of the Florentine school; secondly, some of the Umbrian school; then, crossing the Apennines into the Marches we shall find works by the Venetians along the Adriatic coast; and, finally, leaving Venetia we will end with some works by the Lombard artists.

The first slides represent a series of frescoes by the Florentine artist Masolino.

Tommaso Cristofero, called Masolino of Panicale, is best known to us as the reputed master of the brilliant Masaccio, but we know that he was held in great esteem by his contemporaries. He was born at Panicale in 1383, and was pupil of Lorenzo Ghiberti. We read that in 1427 he made arrangements to go to Hungary in the service of a certain Filippo Scolari, a Hungarian, who was then at Florence, and who was probably an admirer of Masolino's work in the Carmine, which had been recently done. I may here mention that little, if any, of Masolino's work exists now in the Brancacci Chapel. His work on the ceiling has completely disappeared. The rest of the frescoes are nearly all by Masaccio with the exception of one or two fragments, which were finished later by Filippino Lippi. For those who care to study further the work of Masolino and Masaccio and their relations to each other, I would recommend August Schmarsow's monographs on these two artists, which are illustrated by two large portfolios of beautiful photographs, and can be seen in the Art Library at South Kensington.

Masolino seems to have gone to Hungary *via* Lombardy, for we find some frescoes dated 1428 at Castiglione, Olona, a small village thirty miles north of Milan. It belonged to the Castiglione family, and it was a certain Cardinal Branda Castiglione who commissioned Masolino to paint frescoes in the church of his native place. These, which represent scenes from the lives of the Virgin, St. Stephen and St. Lawrence, have been much injured by damp, though there are some delightful bits here and there. On his return from Hungary some years later he painted a series of frescoes in the Baptistery, which, like many of the baptisteries in Italy, is a separate building from the church. They represent scenes from the life of John the Baptist, and were finished in 1435, and are for the most part in a wonderful state of preservation. The exquisitely delicate colouring is the most delightful part of these frescoes, and those who have only seen his frescoes at San Clemente in Rome, blackened by time and ruined by damp, can have but a limited appreciation of his art. To see him at his best we must go to Castiglione, Olona, where the clear and beautiful colouring combined with an earnest attempt at modelling and perspective show him to be a not unworthy contemporary of Fra Angelico, Paolo Uccello and Donatello.

This, as we see, represents John preaching at Bethabara, beyond Jordan. Two of the frescoes represent this subject, but, judging by the presence of Christ and two disciples in the crowd, the moment chosen here is obviously when John said, "There standeth one among you whom ye know not." The two figures in the foreground are distinctly portraits, probably of members of the Castiglione family. This fresco is the most injured, as it is on the north or weather-wall.

Baptism of Christ.—This is one of the best preserved of the series, and also one of the most interesting, for it shows so clearly the mingling of the old and new forms of artistic expression of that day. There is the usual conventional composition of Christ and the Baptist and the angels, but in the animated group in the background Masolino grapples with the difficulties of anatomy and movement very successfully in each of the figures.

John Reproving Herod.—Morelli says of Masolino that he was the first to introduce dramatic character into painting. We see this very clearly in the rage depicted on Herod's face, and on that of the guard seizing John.

Herod's Feast.—In the composition of this fresco the architectural background gives scope for that love of perspective and elaborate decoration which the Renaissance artists delighted in. I would call your attention to the dainty loggia with the charming frieze of "putti." I cannot help thinking that this particular frieze really existed either in Rome or Florence. In 1450 Jean Fouquet passed down Italy to Rome, where he went to paint the portrait of Pope Nicholas V. On his return to France he illuminated the famous "Book of Hours" for Jean Etienne. Forty pages of this book are at Chantilly, and we find this particular loggia and frieze reproduced three or four times almost line for line. Masolino's fresco viewed in light of this fact points to the existence of some classic sculpture of this design which both artists had known and sketched.

This is one of the details of the foregoing fresco enlarged, and represents Salome asking for John's head on a charger. The heads of Salome and of the youth in the crowd are types of youthful beauty, and there is a delicate feeling for line in the long sweep of Salome's dress.

The other half of this scene, representing Herod at table, gives ample scope for dramatic expression. Herod seems almost stunned as he realises what his oath involves, while the prelate next him, possibly the portrait of Cardinal Branda himself, raises his hands in horror. The old man next him is looking with pained astonishment at the fair young girl making this bloodthirsty demand, while the young man looks quickly up the table curious to know what Herod will do.

Salome presenting John's Head to Herodias.—In the beautiful form of Herodias we have one of the most graceful and dignified figures in Masolino's work. It is only by comparison that we can realise how great an advance in art Masolino's work is to that of the majority of his contemporaries. When we remember the work in the Spanish Chapel at Florence, we realise what a triumph of strong and beautiful line this is, and there is no doubt that he exercised an immense influence on the next generation of artists at Florence.

The only other picture of the Florentine school on my list is one that is in a private collection at Rome. It is called the *Derelitta, or the Deserted*, and is attributed to Botticelli, and is certainly of his school. It is interesting to speculate about the artist, for it is so thoroughly imbued with the sentiment and intensity of Botticelli that it must have been painted by one of his followers, and one who was closely in touch with him. The architectural background plays so prominent a part in the composition that it was probably done by an artist who was an architect as well as a painter. It has been pointed out by a distinguished art critic that the only artist in the Botticelli group who was great both as a painter and as an architect was Giuliano di San Gallo, whose work he believes it to be, and he bases his statement on the similarity existing between this picture and the architectural sketches by Giuliano which are in the Barberini Library at Rome. When we remember the beautiful tondo by Giuliano in our National Gallery we see he is quite capable of the wonderful feeling in this picture. The supreme pathos of the grief-bowed figure, the impassable bronze door, the stern stone walls, the dramatic lines of the drapery thrown here and there in despair, give an atmosphere of desolation to the scene. I only know one other artist who at all approaches this feeling, and I think this picture would make a good pendant to *Love among the Ruins*, when Love is gone and the human Soul is left to its solitary fate. There is a fine passage in Zola's "Rome" about this picture, describing it and speculating about it, and ending with these words:—"Elle ne fut là seulement le symbole de tout ce qui frissonne et pleure, sans visage, devant la porte éternellement close de l'invisible."

This picture belongs to Prince Piccolomini, and is in his palace at Rome.

We will now pass on to an artist who is generally called an

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* A paper by Miss Ethel Halsey, read at a meeting of the Society of Arts.

Umbrian, but without much justification as far as his art is concerned—I mean Piero dei Franceschi. It is quite true that some years of his life were passed at Borgo san Sepolcro, but he studied as a youth at Florence, and his art has a close affinity to that of the Florentines, and especially to that scientific school of which Paolo Uccello and Andrea del Castagno were the pioneers. His colouring was influenced by Domenico Veneziano and also by Masolino. His style is simple, direct and great, and I prefer simply to call him an artist of central Italy, as he is one of those roving lights who cannot be pinned down to any special school.

This fresco is dated 1521, and is, therefore, a very early work. It represents Sigismond Malatesta, Lord of Rimini, and is painted over an archway in the Tempio at Rimini. A letter is in existence, written by Sigismond to one of the Medicis, asking to have an artist sent him, to "paint himself kneeling before his patron saint, Sigismond, king of Burgundy." As Borgo san Sepolcro belonged at that time to the Malatesta family, it is at least a plausible theory that his own vassal should have been selected, and thus Piero dei Franceschi began his independent career as State painter at his own court.

This is a fresco of his later period, when his genius had arrived at its full maturity, and in the masterful treatment of this noble and statuesque figure we see the result of his scientific training. It represents the Magdalen, and is in the cathedral at Arezzo. I have included it in my list because I look upon it as one of the finest and most representative specimens of the art of Piero dei Franceschi.

We will now go on to the little town of Foligno, and see the work of two artists of that town—Mezzastris da Foligno and Niccolo di Liberatore, who is often miscalled Niccolo d'Alunno. We see at once a great difference between these simple graceful figures and the works which we have been studying, but though these Umbrians did not trouble themselves much about the scientific side of art, we find a delicate sense of feeling combined with the charm of refinement which make them very attractive.

We find in Mezzastris's work the revival of an archaic form of art, and he probably owed much to the influence of Benozzo Gozzoli, who was working in the neighbouring town of Montefalco about 1450. Mezzastris was active during the second half of the fifteenth century. The best existing works I know of his in Umbria are those at Foligno, and some which are at Assisi, in the chapel of the Civile Nosocomio, an old hospital in that town.

This fresco is over the entrance of the convent of Santa Anna delle Contesse at Foligno, and protected from rain by the picturesque old wooden roof. It is well preserved and most delicate in colouring, while the dainty frieze of "putti," painted on a dark-blue ground, playing with boughs of red and white roses, is particularly charming. These children are full of fun and mischief, and we can see that he delighted in painting them. We find a similar frieze running round the chapel at Assisi.

It is interesting to remember that it was for this convent that Raphael painted his great Madonna da Foligno, now in the Vatican.

Niccolo da Foligno is an artist who is more widely known. We have a small and very elaborate triptych by him in the National Gallery. It is an interesting work, and must have been painted when he was in the Marches, as the backgrounds, with the glimpses of the sea, represent the country near Macerata and Monte san Guisto fairly successfully.

This picture is in the church of S. Niccolo at Foligno, and I look upon it as one of the artist's finest productions. I think that he has achieved more in this than in any of his other works. The face of the Madonna is most beautiful, and her dark robe stands out effectively against the cherubs, who are painted in various tones of gold.

This artist painted principally in Umbria. Vasari mentions seeing at Assisi a "Pietà," in which were two angels weeping, "their emotion," he says, "so naturally expressed that no artist of that time could have painted them better." Niccolo certainly expresses emotion most effectively. He shows in his work certain of the characteristics of Crivelli, who he must have known in the Marches. We find the same attempt to depict intense religious feeling, often at the absolute sacrifice of all beauty.

Before entering the Marches I wish to show two architectural panels which are in a private collection in Rome. They are by the famous architect Fra Carnavale, of Urbino, a Dominican friar, who was active during the middle of the fifteenth century. They are not exactly masterpieces of painting, but they are interesting as representing the sort of ideals the Renaissance architects aimed at, and which are far more elaborate than what we saw in Masolino's work. To give a little life to a purely architectural picture he introduces scenes from the story of the Virgin. This one represents the birth of the Virgin, and this one the Presentation in the Temple. Fra Carnavale was the master of Bramante, and when we recall the latter's work in Milan we realise the result of his early teaching. What is very typical of the spirit of the age is the extraordinary mixture of sacred and profane subjects on the façade of what is meant to be a sacred edifice. Above we have the Annunciation, on the side the Visitation, while below are a Faun and a Bacchante dancing.

When we look at the map of Italy we see a barrier of mountains dividing the east from the west, and this geographical condition explains easily why Umbria was practically cut off from all Venetian influence, while the seaboard of the Marches allowed facilities of intercourse with Venice.

The Marches consist of the five provinces of Ancona, Pesaro, Urbino, Macerata and Ascoli, and it was in the last two, Macerata and Ascoli, that most of Crivelli's works were originally to be found. The greater part are now in galleries, the National Gallery in London and the Brera at Milan have the principal ones.

(*To be concluded.*)

Correspondence

[*The Editor does not hold himself responsible for opinions expressed by the writers.*]

Public Health (London) Act, 1891.

SIR,—May I draw your attention to ch. 76 sec. 5 of the above Act, which appears to require radical alteration in some of its subsections. An owner of a number of well-built cottages in the Ladywell district finding his property being damaged by undesirable tenants, and experiencing difficulty in evicting them, unwisely applied to the local authorities to issue a closing order. The tenants under this were duly ejected, and the owner then consulted me, with the result that the property was thoroughly redrained and put into substantial and decorative repair at a large expense, making it approximately in accordance with the requirements of the London Building Act, 1894. On application to the magistrate for a recision order, he refused to act without the consent of the local authorities. There is no word in the Act permitting him to take this stand, but simply an inference that he judge the case sitting as a petty sessional court, and my client, being a poor man, shrinks from facing the expenses of a mandamus to compel him. The local authorities refuse their consent, and give no reason for their action. The Act permits them to decline giving any specification or information as to what they consider necessary to render the premises habitable, thus making them masters of a situation frequently created to further their own ends, which are not always above reproach.

It would appear, therefore, that the following amendments are urgently needed:—(1) That there should be served with the closing order a specification of what the local authorities consider necessary to put the property into habitable repair; (2) that if they consider it impossible to make the property habitable, the magistrate should be compelled to judge the case on its merits without previous reference to them.—Yours obediently,
JOHN W. RHODES.

Mitre Court Chambers, London, E.C.:
May 31, 1900.

GENERAL.

Sir Benjamin Barker, C.E., is to receive the honorary degree of Doctor of Science from the University of Cambridge.

The Victoria Art Gallery, Bath, of which Mr. Brydon is architect, was opened on Tuesday by the Marquis of Bath.

The New Land Registry Office is to be erected on the south side of Lincoln's Inn Fields at a cost, including site, of 265,000*l*. The plans were prepared by Mr. Tanner, of the Office of Works.

Mr. Von Herkomer, R.A., will deliver a public lecture at the Sheldonian Theatre, Oxford, on Monday, June 18, upon "England Lovable and Paintable."

A Bust of the late Sir Douglas Galton, by Mr. Brock, R.A., is to be placed in the Shire Hall, Worcester.

"The Victoria Cross Gallery," by the Chevalier L. W. Desanges, removed from the Crystal Palace, comprising forty-five very large pictures of battle scenes, has been sold for 1,000 guineas to Lord Wantage.

The Annual Excursion of the Edinburgh Architectural Association will be made to-morrow, Saturday, June 2, to Balmerino Abbey, the Castle of Ballinbreich (locally called Bambreich), the Abbey of Lindores, the Town of Newburgh, &c.

Mr. Edward J. Hansom, of the firm of Messrs. Dunn, Hansom & Fenwick, architects, Eldon Square, Newcastle-on-Tyne, has died from the effects of a revolver wound in the mouth. He was the son of the late Mr. Charles Hansom, of Bristol.

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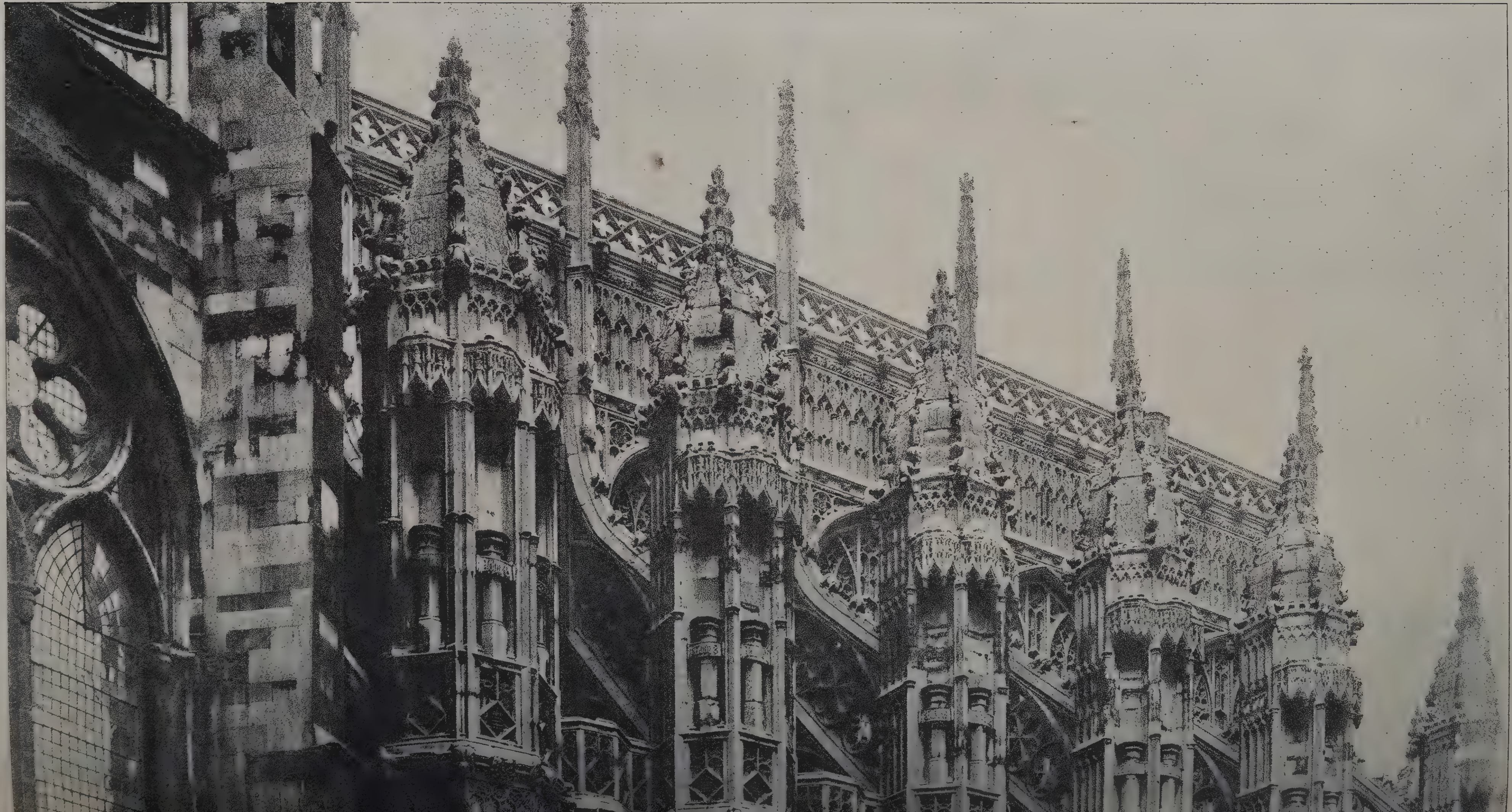

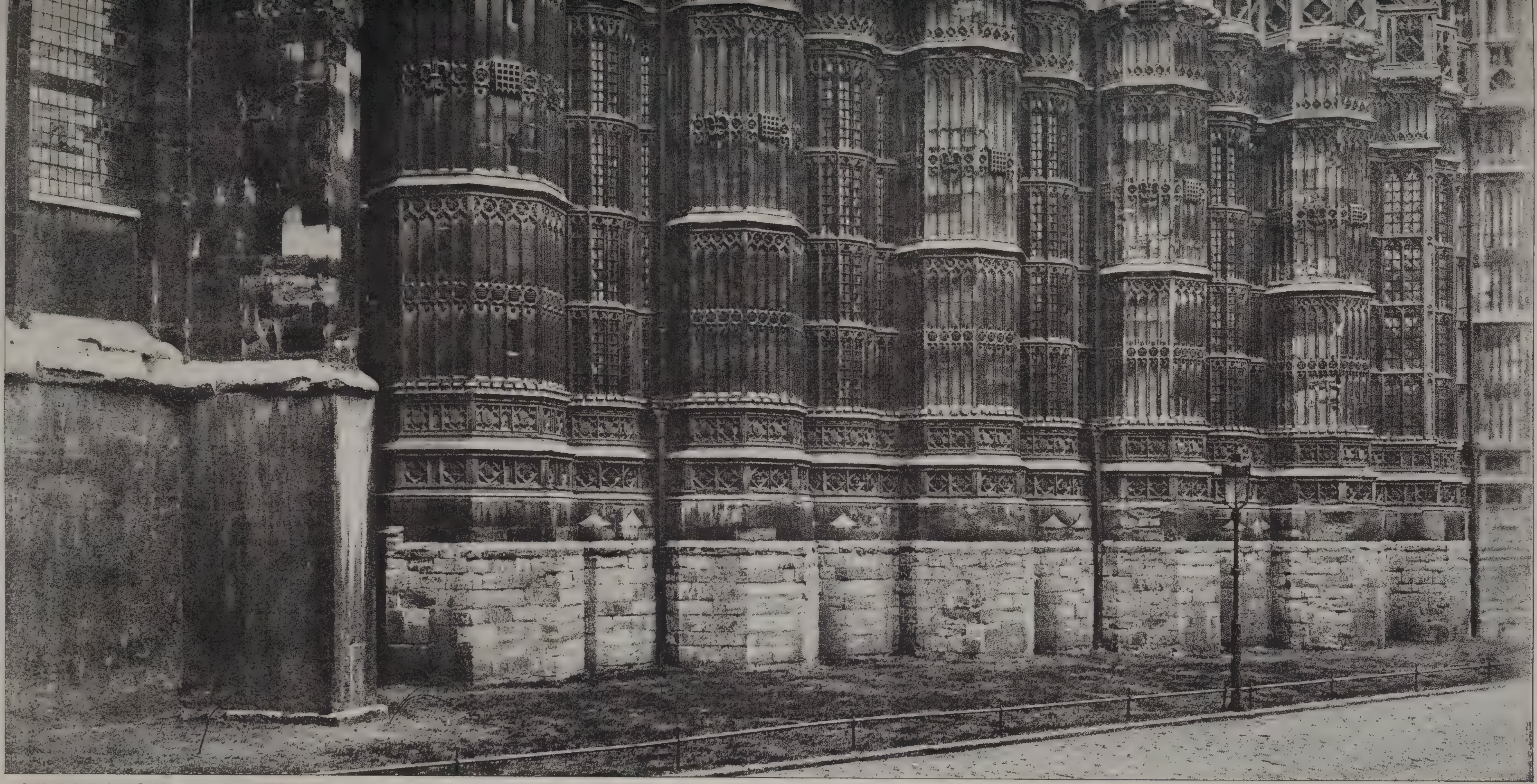

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WESTMINSTER ABBEY, No. 61.

EXTERIOR, HENRY VII. CHAPEL.

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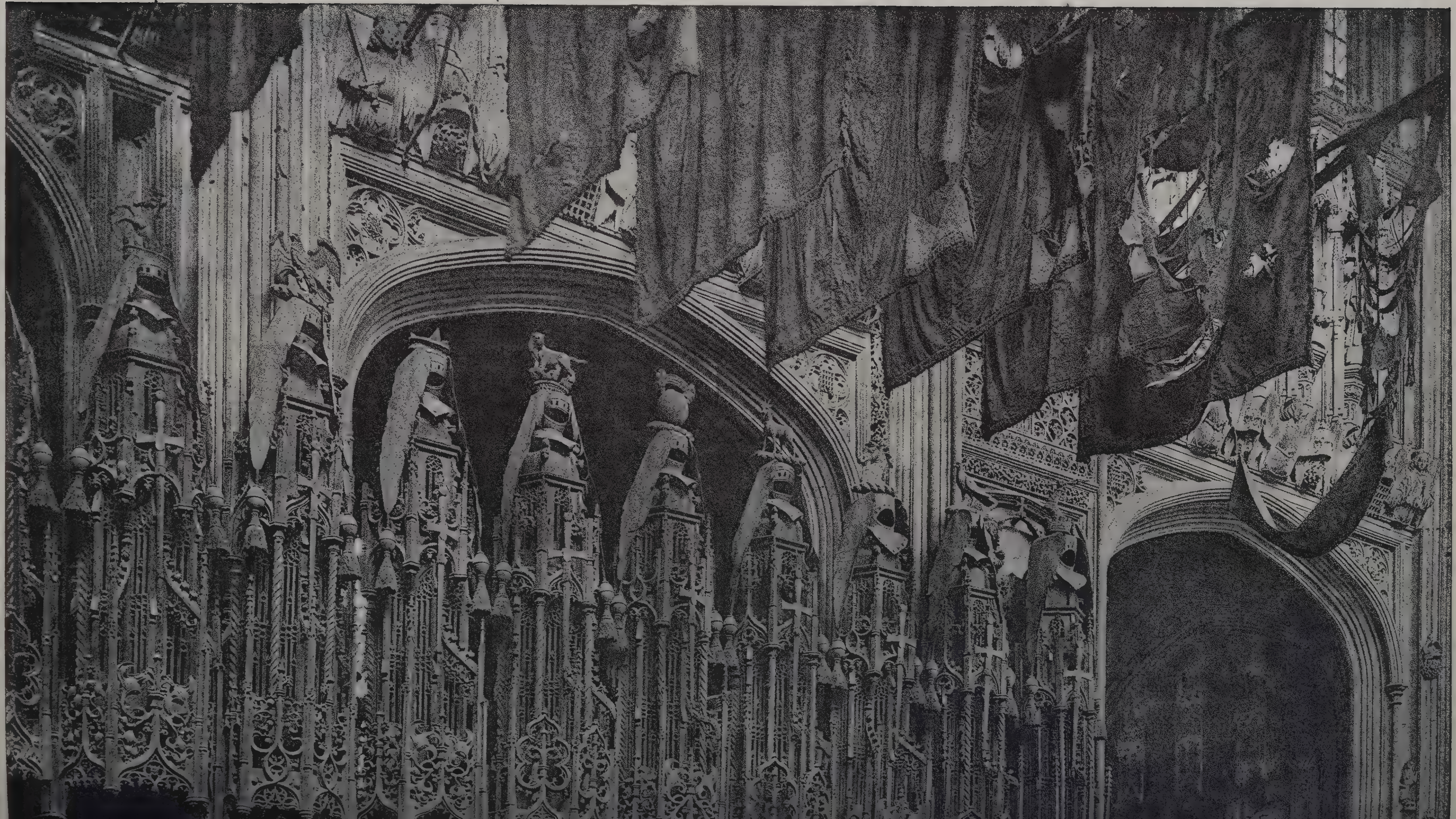

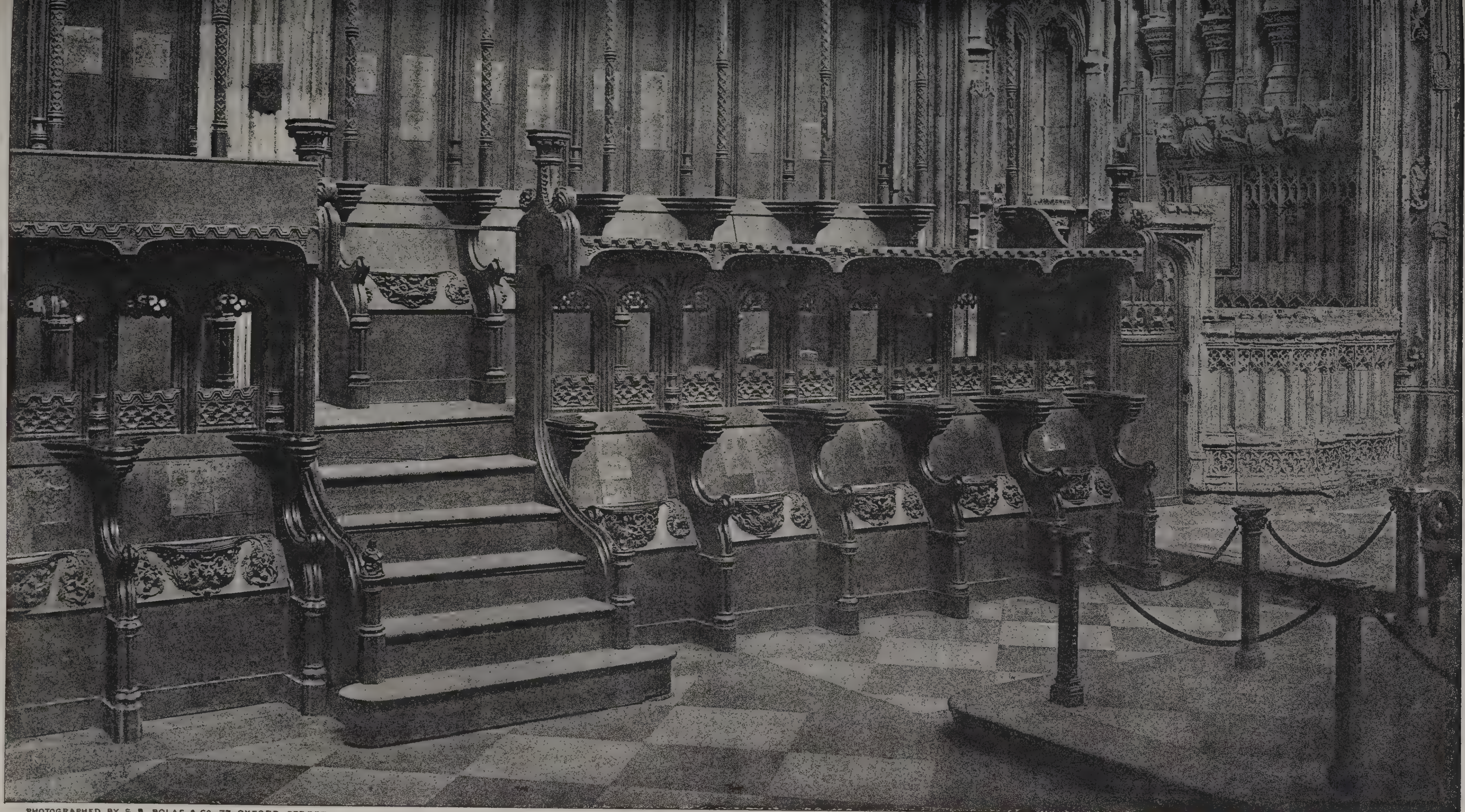

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WESTMINSTER ABBEY, No. 60.
DETAILS OF STALLS, HENRY VII. CHAPEL.

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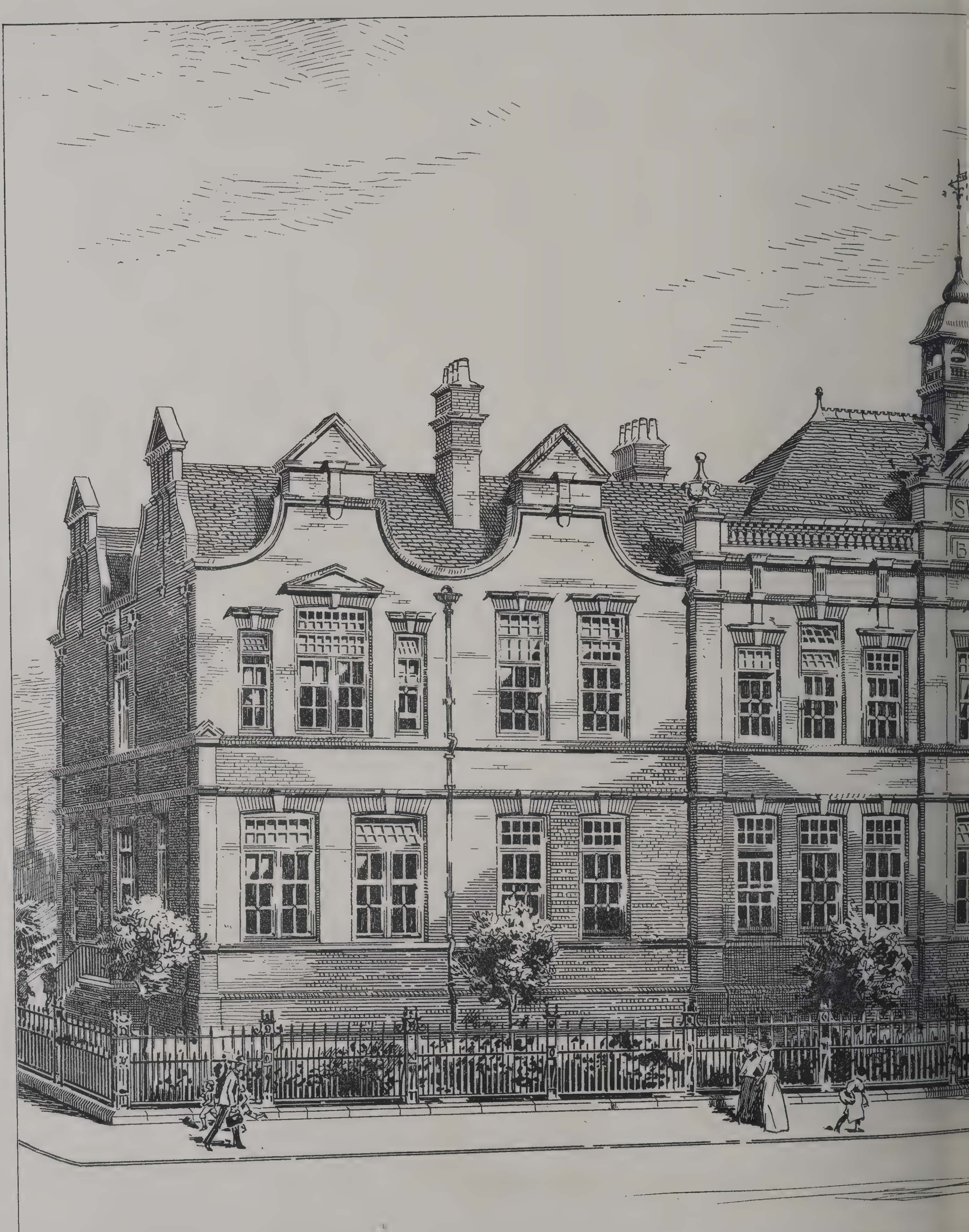

SWANSEA ROAD

GEO. W. W

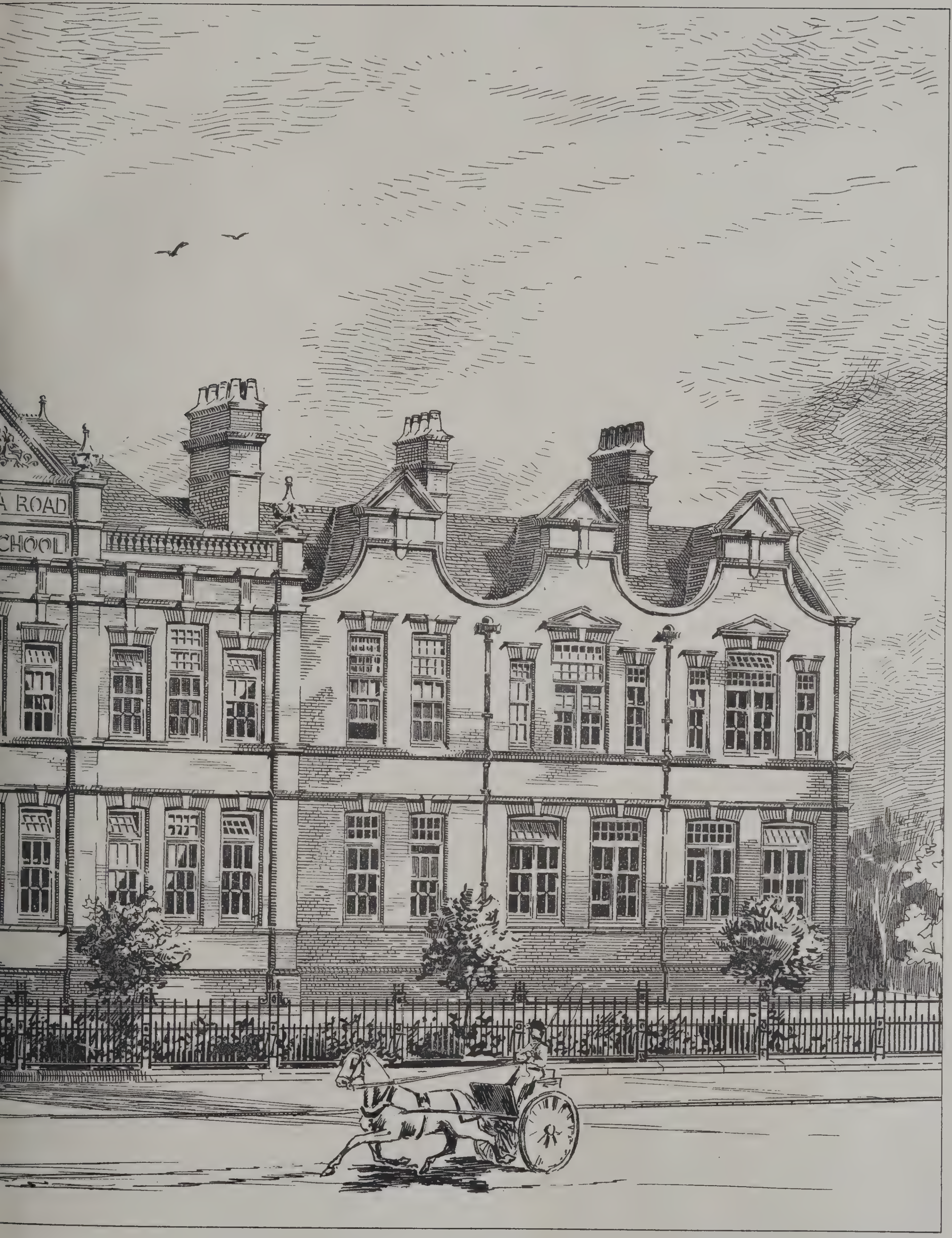

PHOTO-LITHO. SPRAGUE & Cº Lᵀᴰ 4 & 5 EAST HARDING STREET, FETTER LANE, E.C

CHOOL, READING.

Architect.

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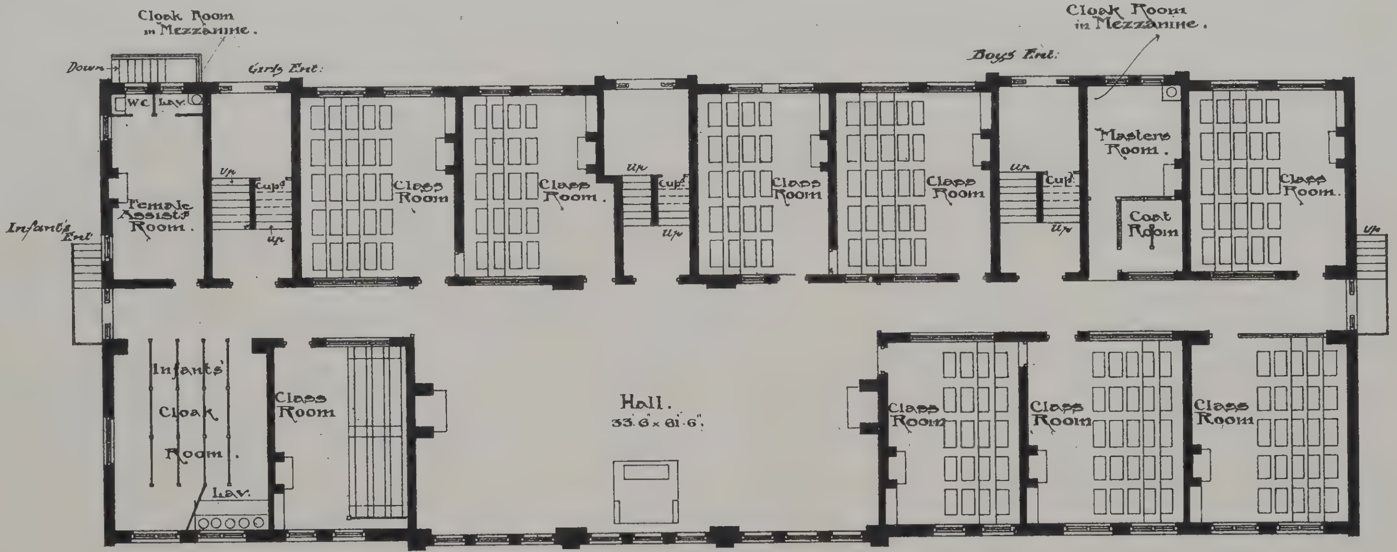
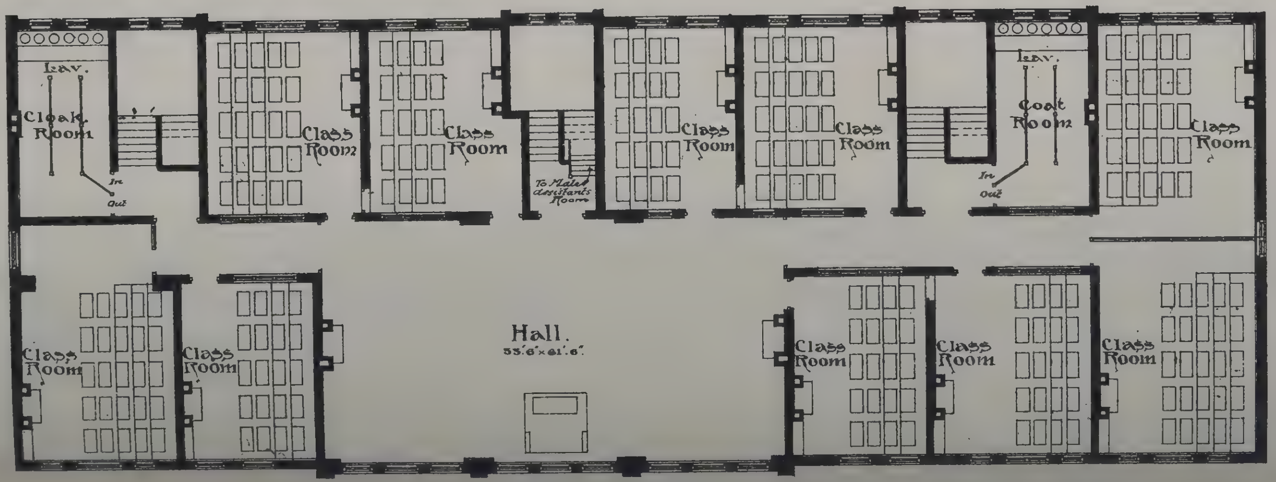
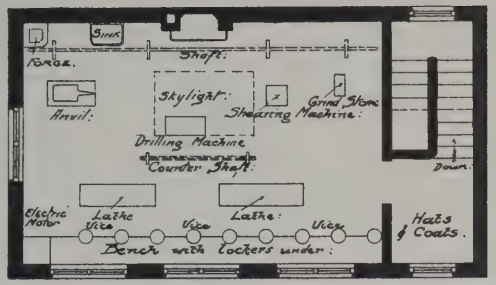


· Ground · Floor · Plan ·

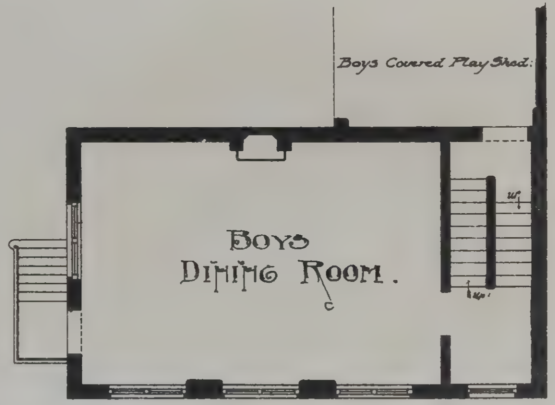


· First · Floor · Plan ·

ENGINEERING SCHOOL



FIRST FLOOR PLAN.



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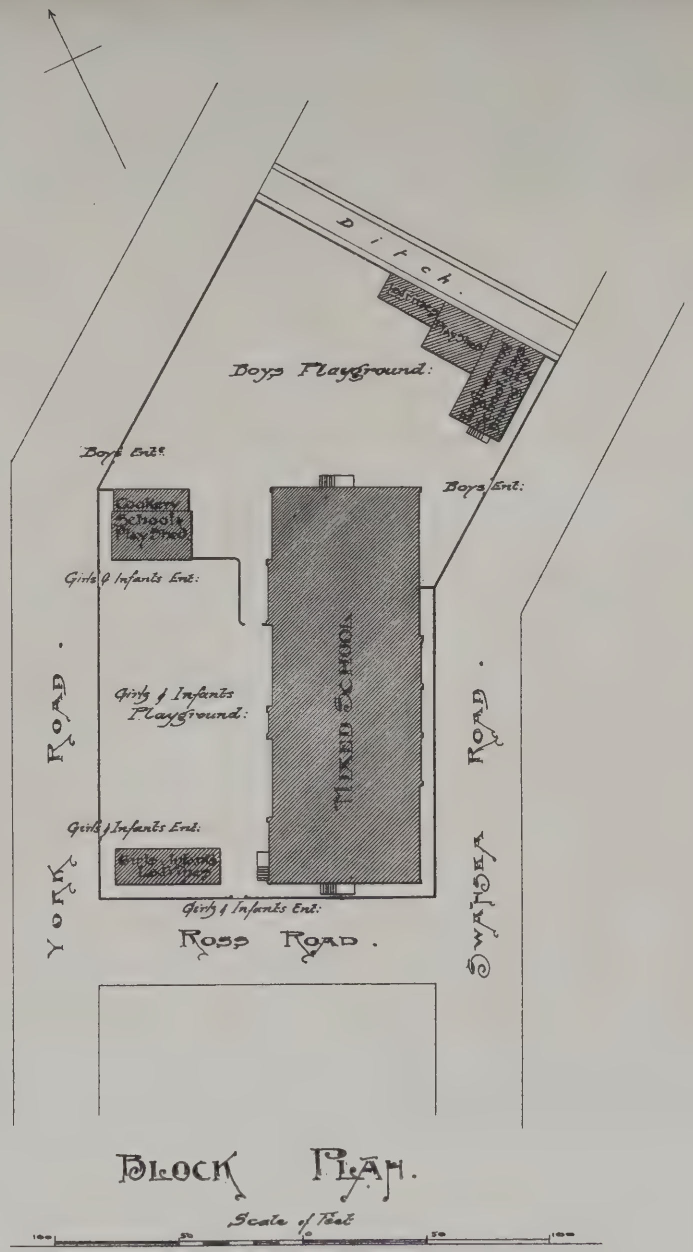
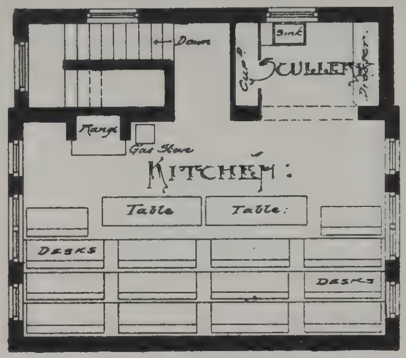


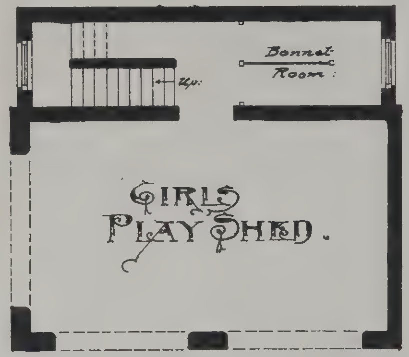
BLOCK PLAN.

Scale of Feet

COOKERY SCHOOL.



FIRST FLOOR PLAN.



GROUND FLOOR PLAN.

G. W. WEBB. F.R.I.B.A.
ARCHT
READING:

SCALE OF FEET

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PHOTO-LITHO SPRAGUE & Co LTD 4 & 5 EAST HARDING STREET, FETTER LANE E.C.

The Architect.

THE WEEK.

In summer obstacles to the improvement of watering-places appear to be less endurable than at other times. For that reason there is unusual dissatisfaction in Worthing because an improvement of the sea front is not likely to be carried out during the present season. The reason is that Sir E. G. Loder, Bart., the owner of the Beach House estate, considers the construction of a Parade between Warwick Road and the East Esplanade, or the construction of a temporary timber walk or footway on the sea beach between these points, as proposed, would adversely affect his interests in the property, and accordingly he has resolved to oppose the execution of either scheme if determined upon by the Town Council. All that can be done by the Worthing Council is to apply to the Board of Trade for sanction to construct this temporary timber walk or footway on the sea beach, and subsequently to take such steps as may be necessary to carry the scheme into effect, provided terms satisfactory to the Council can be made to meet the cost of the works. Only a few years have elapsed since Worthing suffered serious loss through the invasion of the town by an epidemic, and a large sum of money has been expended to prevent a recurrence of similar attacks. It is not certain that the town has recovered the favour it once possessed, and it would be a gracious act for any proprietor to aid in increasing the advantages of so excellent a watering-place.

The church of S. Anastasia in Verona, which was built by the Scaligers, is remarkable for its paintings by known and unknown masters. In the Pellegrini chapel are works by Vittorio Pisanello, one of the masters of the early period of the Venetian school. The most remarkable among them is his fresco of *St. George*, which, as the artist lived between 1380 and 1451, is likely to have been produced in the beginning of the fifteenth century. In this work the hero appears mounted, and has just pierced the dragon. In the background there is a landscape, which has been painted with more breadth of treatment than is shown in the work of contemporary artists. What now adds to the interest of the fresco is the number of portraits in the picture of nobles belonging to the courts in Ferrara and Rimini. Unfortunately the fresco has for years suffered through dampness. Some time ago it was found necessary to remove a part of it from the wall to canvas. The remainder is now in so deplorable a condition, the Italian Government have under consideration a repetition of the experiment, and unless there is promptitude the painting, which is particularly interesting to English visitors, will have vanished like many other of the treasures of the old city of the Capulets.

The excitement over British victories has been too powerful to allow the public to bestow even a little attention on the risk of the National Gallery in case of a fire breaking out in any adjoining premises. There is no need to employ exaggeration in order to obtain the interference of the Government. It may be granted that the arrangements and apparatus available for dealing with an outbreak of fire are sufficient to cope with a sudden conflagration; moreover, from the position of the National Gallery, there would be a certainty of obtaining instantly the aid of a large force of the Fire Brigade. None the less, the fact must be admitted that the position of the Gallery in relation to the surrounding buildings is not desirable. A slight outburst of flame like that which occurred a few days ago increases the conviction that the National Gallery is menaced with perils from without. But it must be granted that the only effectual way of securing the building would be not only a costly but probably an impolitic operation. The removal of the barracks in the rear is a measure of which no Home Secretary would approve. London would be as safe if the site of the barracks was unoccupied or used for an extension of the National Gallery. But the official world has taken another view of the situation, and has no doubt cognisance of contingencies of which ordinary citizens would never dream. After the outlay of so much money on pictures the Government cannot be indifferent to such a treasure-house, and provision for safety may therefore be left to their controlling power.

It is preferable to see dwellings for the humbler classes constructed as a voluntary commercial enterprise than to have the cost of them imposed on ratepayers who often find it difficult to meet their ordinary demands without being mulcted by municipal philanthropies. For that reason it is satisfactory to learn from the proceedings of the Co-operative Congress at Cardiff on Wednesday that house-building finds favour among the members. During the last thirty years it has been found that the large sum of 5,147,526*l.* has been expended by 224 co-operative societies in the erection of over 24,000 houses. The investors must have been satisfied, for it was earnestly recommended that all societies whose position warrants the development should take steps to establish a house-building department in connection with their business. Whether it is more economical for societies to undertake building operations instead of employing practical builders may be doubted; but at least the losses will fall on the members, and will not be shuffled off on ratepayers like those arising from the undertakings of the building departments of local authorities.

The people of Tonbridge have reason to congratulate themselves on acquiring the ruins of the ancient castle and the picturesque grounds of about 13 acres which adjoin. It is, of course, not merely out of love of archæology the property was purchased, for a part of the land can be used for utilitarian purposes without much diminution of the natural beauty of the place, and the later buildings can also serve for municipal workshops. The position allowing of control of the Medway, the sagacious Normans at once realised its advantages. A castle was erected by Richard FitzGilbert, sometimes known as Richard de Tonbridge, and afterwards Earl of Clare. But from its importance it was eagerly sought after, and in the reign of Henry III. the castle was captured after a siege by Prince Edward. It sustained also attacks in later periods. The outer walls must have enclosed an area of about six acres. There remain the artificial mound on which the keep stood, the entrance gateway flanked with round towers, &c. It is to be regretted that in the eighteenth century efforts were not made to preserve the masonry, for without much expense it would have been possible for a sufficient part to have remained to indicate the arrangements. The property was purchased from Lady Stafford's trustees, with the approval of the inhabitants. It suggests the wonderful changes of fortune, when a structure which was originally intended to awe the inhabitants should become the property of their descendants.

The Law School and Law Library Building Syndicate of the University of Cambridge report that they consider that the best position for the new buildings is on the north side of the ground purchased of Downing College, the library to be built adjacent to the Geological Museum, and the law school on part of the remaining south front of the ground adjacent to the library. They have received a munificent offer from the trustees under the will of the late Miss R. F. Squire to defray the cost of building the law library and of furnishing it with internal fittings. In accordance with the wish of the trustees the library will form a distinct and self-contained part of the whole building, but its entrance and staircase, which will be at the western end, will also afford access to the different rooms of the school. The plan for the library, by Mr. T. G. Jackson, R.A., has been approved by Miss Squire's trustees. With the consent of the Master of Trinity Hall, Mr. Jackson proposes to devote part of the master's contribution of 2,000*l.* to the embellishment of the Downing Street front of the law library and to the provision of ornamental gates. This will be in addition to the sum expended by Miss Squire's trustees. The syndicate recommend that the library be called the Squire Law Library, and the offer of the trustees be gratefully accepted.

CHARLES BARRY.

Although Sir Charles Barry's name was not often associated of late with architectural work, his death on Saturday at Worthing will excite the regret which is inevitable whenever the representative of an historic family is removed. With him we lose a link which unites the present with a former and most memorable period of architecture. The eldest son of the great artist to whom we owe the Houses of Parliament and many other admirable buildings, he seemed destined to continue the traditions of his father's eminence. Sir Charles Barry was to be considered fortunate in having three sons who were endowed with a talent for construction, for it is extremely rare to find men in one family like Edward Barry, J. Wolfe Barry and the Charles Barry who has just passed away. Of the two sons who applied themselves to architecture, the elder appeared the most likely to gain a monopoly of great commissions. It always seemed to us somewhat of a misfortune that Charles Barry began and continued his career in Westminster. There was no other man among his contemporaries who was so capable of being a rival to Sir William Tite as a "city architect." He had all the qualities which are supposed to be essential for the chairman of a great industrial company. His manner was enough to excite confidence, and it could be concluded that with him the artist was in subservience to the man of business. It is no wonder, therefore, that he held a prominent place in the Guilds of London. The same power we may be allowed to say could be utilised with success as a Parliamentary engineer. But taken as a whole architectural practice is mainly concerned with individual clients, and there are few opportunities for the exercise of that skill in dealing with bodies of men which was possessed by Charles Barry. The contrast between him and his brother Edward, who gained more prominence as an architect, was remarkable. One possessed the artist's excitability to an unusual extent, and those who were acquainted with the two men were aware of many instances in which Charles Barry, with his diplomatic tact and *savoir vivre*, was able to prevail with his younger brother and to avert collisions with clients which would have been ruinous to him. It was the same urbanity which enabled Charles Barry to govern the Institute of Architects at a critical period, and having gained so much success while in office it was only natural that he should imagine that his influence would continue to be exercised after his period of presidency had terminated, and that his disappointment should be acute when he found he had been utilised for an emergency.

Every one knows that Sir Charles Barry followed the Italian style by predilection. He was compelled to adopt a phase of Gothic in the Westminster buildings because of the decree of the Parliamentary Commissioners. His eldest son made acquaintance with Gothic when he first entered his father's office, but he was never smitten by the romance of the style. Like his father, his preference was for Italian in one or other variety, and we see it exemplified in the latest important building of which Charles Barry was architect—the Institution of Civil Engineers in Great George Street. Apparently he had resolved to keep up the style as if it were a family tradition. Many of the characteristics of his father's Italian buildings are to be seen in the Piccadilly front of Burlington House, which was designed by the firm of Banks & Barry. That work has not the severity we can see in the Travellers' Club, but it has an elegance which is well adapted to its position in so important a thoroughfare.

Another work in which he allowed himself rather free treatment was the Dulwich College and its subsidiary structures. Mr. Ruskin used to speak with severity about the details. He considered it was through the influence of conventional Italian that his architectural theories never were realised, and he was disappointed with what was at the time the principal aim of his life. He used therefore to find a better pleasure in pointing out that, if judged by the conventional Italian examples, the Dulwich buildings were not a success. From the remarks which appeared from time to time it might be supposed that the masters were not satisfied with the buildings. But the general opinion among architects is that, taken as a whole, the college buildings are successful, and they have the great advantage of not presenting an appearance suggestive of the pains and penalties which are the usual accompaniments of educational processes. Another school of a different kind is the Industrial School at Feltham, which is among the best of its class in the country.

Barry received many of the distinctions which are available for architects. He was not, however, able to secure admission to the Royal Academy, to which his father and brother belonged. He was elected President of the Royal Institute of British Architects, and in that office rendered sterling service. In 1877 he was awarded the Royal Gold Medal, to which he was well entitled as a practising architect. On that occasion, according to the report in *The Architect*, Professor Donaldson, the chairman, in referring to Charles Barry's architectural work, said:—

He felt greatly flattered in having been requested to take the chair, more especially as he was called upon to discharge a most agreeable and honourable function. Possessing as he did a great reverence for the memory of the late Sir Charles Barry, he might, in the presence of his son, adopt the language of Mr. Beresford Hope, and say that "the name of Barry shall be transmitted to posterity in connection with architecture." He would ask the President to adopt as his watchword "Excelsior," trusting that a hundred years hence the Barry family would have left monuments of their zeal and taste worthy of the memory of him who built the Houses of Parliament and other great works. Brought up in the office of such a man as Sir Charles Barry, and possessing such splendid opportunities, it was only natural that the President should follow in his footsteps, and his works bore testimony to his ability. The mass of buildings which he had erected at Dulwich under the direction of the college authorities were worthy of high commendation, and the use of terra-cotta had been wisely introduced. Mr. Barry had been called upon in Italy to advise the Government in reference to important works at Turin and Milan, and he (Professor Donaldson) trusted that those works were being carried out to his satisfaction. He also spoke in high terms of Mr. Barry's work at Burlington House and elsewhere.

Mr. Barry, in reply, said:—

He knew there were many men in the profession and in the room who were far more worthy of the honour of which he was the recipient. He might say that he had always striven to obtain a worthy name among the architects of England, and felt the obligation to be worthy of the name of that great man whom he was privileged to call his father. If he had not had to create a name, he had every inducement to prove worthy of it, and with that object would labour to the end of his days. If any further inducement were needed, it was provided by the presentation of this medal at the hands of a great master of art and a friend. He could not but feel conscious that Professor Donaldson, from motives of friendship, had spoken too highly of his (Mr. Barry's) works; but if posterity should confirm what had been said, he could not anticipate a greater reward. The presentation would indeed prove an incentive to him to seek after the increased appreciation of art both here and abroad; and although he had not said nearly so much as he could wish in acknowledgment of his sense of the high honour conferred upon him, he would give expression to his feelings in the good old English words which conveyed so much—Thank you with all my heart.

He was appointed a member of various commissions and committees relating to art. In 1878 he received the Cross of the Legion of Honour in recognition of his work as representative of Great Britain at the Paris International Exhibition, an office which his facility in employing the French language rendered easy.

It has been remarked that in architectural practice it is impossible to found a family dynasty that will endure. One of the reasons, no doubt, is that a similar law operates among clients, for a man's love of new buildings is not always transmitted to his sons and grandsons. Charles Barry exemplified the law. He was not offered commissions for Government buildings, although for a long time his father was accepted as an official architect. Younger men were more fortunate than Charles Barry in securing the more important buildings erected during the last quarter of a century. The contrast between his office and that of his brother, Sir J. Wolfe Barry, revealed how wide is the difference between the making of a name and the inheriting of one with the public. What Sir Charles Barry was could be suggested by the applications for the services of his son the civil engineer. The late Charles Barry was, however, of great use as an arbitrator and adviser. All who knew him will be ready to admit that he was an admirable representative of architecture, who was always ready to uphold its dignity and to preserve its traditions.

THE ELECTRICITY SUPPLY AUTHORITY AND THE PUBLIC.

THE supply of electricity is controlled by Parliament under the Electric-Lighting Acts of 1882 and 1888, and the Electric-Lighting Clauses Act of 1899 (which are defined as the principal acts), and is authorised by Provisional Order (called the special order), which is subject to the rules and regulations of the Board of Trade.

It is proposed here to consider the position of the public with regard to the question generally.

Right to a Supply.—Within two years of the date when an Order is granted, mains must be laid in certain streets which are scheduled in that Order (called the compulsory area). Any person may require a supply of electricity on the same terms and conditions as any other person in those streets, providing the premises are at a not greater distance than 50 yards from the mains. The supply authority, however, may require the cost of the length of service main which is upon the premises, and any length above 20 yards from the distribution main, to be refunded. The supply authority may also require a contract to be entered into guaranteeing to take a supply for not less than two years, of such a quantity, the payment for which will not be less than 20 per cent. per annum of the cost incurred by the supply authority in connecting to the mains. Security may also be required for such payment.

The supply authority may be required after eighteen months from the grant of the Order to lay down mains in streets in the area over which they have the right to supply other than those scheduled as the compulsory area, providing applications are made for a supply in at least six premises in one street, but the supply authority may require a guarantee (from the six applicants) that the supply will be taken for three years, and produce not less than 20 per cent. per annum of the cost incurred in laying the additional mains. The number of applications and the guarantee is, however, subject to variation, either in the Order or by arbitration, according to the special circumstances of the case.

The supply authority before laying a special service main to any particular premises, the main not being for a general supply, must give twenty-eight days' notice to all persons whose premises the proposed mains will pass, and any two applicants may obtain a supply from the same service main, in which case it must be laid as a public main.

After a supply of electricity has been given the supply authority may require security within seven days for the payments which may become due, and may cut off the supply until such security is given. The supply authority, however, is bound to pay interest on such security at the rate of 4 per cent. per annum, payable every six months.

Method of Supply.—The system of supply must be approved by the Board of Trade, and subject to rules and regulations for the protection of the public with regard to safety and sufficiency of supply.

The supply authority must state the standard pressure before commencing a supply to any premises, and this pressure, which must be below 250 volts, must not be departed from to a greater extent than 4 per cent. The supply when once given must not be discontinued except for testing, when notice must be given to the consumer if the period of disconnection is to exceed one hour. The pressure of supply must not be altered without the consent of the local authority or the Board of Trade, and in the event of any change of pressure the Board of Trade or local authority may enforce conditions upon the supply authority. These conditions usually are to the following effect:—

The supply authority must give one month's public notice of their intention to apply for permission to alter the pressure. The supply authority must replace all apparatus on a consumer's premises free of charge which may become inefficient, dangerous or useless by the alteration of pressure, and must leave the wiring, fittings and other apparatus on the consumer's premises in good condition, and suitable for efficiently utilising the supply at the altered pressure.

It is to be noted that no change must be made in the pressure of supply without the consent of the consumer if the supply was given previous to the date of issue of the Board of Trade regulations (1896).

The penalty for breach of any regulations under this heading by the supply authority may amount to 5*l.* per day.

Wiring and Fittings.—As to the wiring, lamps, fittings and other apparatus on the premises for the use of the electricity, the supply authority cannot specify any special type or make, except so far as to insure that the supply to other premises will not be interfered with or neglected by the use of defective apparatus, and it is for this reason that the supply authority issues rules.

It is difficult, however, to define exactly how far the rules made by the supply authority are enforceable. The Act of 1888 allows regulations to be made by the Board of Trade and the local authority (if not the supply authority). The rules of the Board of Trade relate to the safety of the public, and the regulations as to supply. The Clauses Act (1899) states to the effect that the supply authority are not compelled to give a supply, unless "reasonably satisfied" that the wiring, fittings and apparatus are in good order and condition, and are not calculated to affect injuriously the use of energy by the supply authority or others. The Board of Trade regulations state that no installation shall be connected to the mains if the leakage is more than $\frac{1}{10,000}$th of the maximum supply to the premises. The penalty for default of the supply authority in complying with the Board of Trade regulations before mentioned is not exceeding a daily penalty of 10*l.*, and in addition compensation for damage sustained.

All apparatus necessary for giving a supply on a consumer's premises, other than the meter and service mains, has to be provided and maintained entirely at the cost of the supply authority, and must be placed between the mains and the consumer's terminals.

Charges for Supply.—As previously mentioned, there must be no preference; any person may demand a supply on the same terms as any other, although the rate of charge may be agreed upon, and must not exceed that specified as the maximum in the Order, which is usually 8*d.* per unit, with a minimum charge of 13*s.* 4*d.* This minimum charge, however, is seldom enforced, and the charge is generally less than the maximum stated.

The method of charge must be by meter unless otherwise arranged.

The supply authority is bound to supply, except it is otherwise arranged, on the basis of the amount of electrical energy used, or by the quantity of electricity supplied at an assumed constant pressure. Notice must be given by the supply authority, before a supply is commenced in any main, of the method of charging to be adopted, and the method may not be altered except by giving one month's notice to every consumer.

The maximum charge or methods allowed for charging may not be altered except by permission of the Board of Trade, who may hold an inquiry, and who may only sanction an alteration after seven years have elapsed from the previous fixing of the charges or method of charging.

The alteration of any method of charging may involve change of meters or instruments, and any cost of this must be paid by the supply authority.

There is no limit (except by special agreement with the local authority) as to the dividends which may be paid by the supply authority (if a company), and there is therefore no enforced reduction of charges as with the supply of gas. Special orders have, however, been consented to by the local authority in many cases, only on certain conditions as to reduction in charges, although when the local authority is the supply authority, if the net profit exceeds 5 per cent. of the capital, a reduction in price must be made to keep the profit down to this.

Meters.—The meter may be provided by the consumer or by the supply authority, at the option of the former, and must in either case be kept in repair by the owner. Unless it is otherwise agreed, the meter must be of a pattern which has been approved by the Board of Trade, and also must be actually certified as accurate by the electrical inspector appointed by the local authority or Board of Trade for that purpose. There is no limit as to meter rents when the meter is provided by the supply authority, but the consumer always has the option of providing it. The accuracy of any meter must be tested on the application of either the supply authority or the consumer, and if found accurate the applicant pays the cost of re-certifying.

Electrical Inspectors.—The local authority, when not the supply authority, may appoint an electrical inspector, and if the local authority is the supply authority the Board of Trade may, on the application of any consumer, do so.

An electrical inspector is, as it were, an arbitrator who comes between the supply authority and consumer and settles points in dispute. The duties of the electrical inspector comprise the following :—

(*a*) To inspect and test the supply authority's mains and to test the supply given to consumers ; (*b*) to examine and certify meters ; (*c*) to carry out other duties specified in the Order and the regulations of the Board of Trade, such as testing of wiring and fittings.

Nuisance.—There is another matter of great interest to the public, even though not consumers, namely, that of nuisance. Under a provisional order the supply authority is not exempt from penalties being inflicted for nuisance, whether being caused by smoke, vibration, opening of roads or otherwise.

HAMPSTEAD AND ITS ASSOCIATIONS.*

THE statistics of Monday's holiday-making show that for the majority of Londoners Hampstead has no rival as a resort for a day's pleasure. So much success may not be considered as a testimony to its picturesqueness. It is well, however, to remember that if it were not from the necessity of keeping the Heath open for the benefit of the humbler classes, it is possible Hampstead would now be amalgamated with the Metropolis and covered with streets. The affection for it is evidence of an innate desire in men, for whenever they dwell in low-lying towns and cities they seek elevated places for rest or protection. When London was afflicted by the Great Plague and the Great Fire a large number of the inhabitants rushed to Hampstead as if it were a city of refuge. But familiar as is the name the origin of it is uncertain. At one time it was called Hamestead or Hamstead, and it was long believed the lands were part of the gifts of the CONFESSOR to Westminster Abbey, a grant which the CONQUEROR respected. Abbot CROKESLEY, in the time of HENRY III., assigned the whole produce of Hamestede and Stoke for the celebration of his own anniversary, when doles to the amount of 4,000 pence were bestowed during a week, and the monks enjoyed a double allowance. But after his death it was considered an abbot's anniversary could be commemorated on more economical terms, and with the consent of the Pope only 10 marks out of the revenue were assigned to such celebrations. The manor of Hampstead was part of the property assigned by HENRY VIII. for his new bishopric of Westminster; but in a few years the bishop made away with most of the land. The bluff king contemplated using Hampstead as part of a royal warren for his own use, and severe punishments were announced to be imposed on those who interfered with the game; the enjoyment could only have been in the king's imagination, for the royal NIMROD was at the time too unwieldy to pursue a domestic fowl. Necessity could break through the laws of those despotic times, for when in HENRY's reign a great inundation had been prophesied crowds rushed from the City to "bleak Hampstead's swarthy moor" for protection.

It is not certain when collections of buildings were first to be seen in the district. The citizens of London loved to be near the houses in which their business was carried on, and a suburban retreat would be considered ridiculous. When JAMES I. amused himself with hawking on the heath it is said that "fair edifices" began to arise. But of those buildings no trace remains. At the end of the seventeenth century it was calculated there were about 260 houses in the district, and we suppose many were not more substantial than bathing-boxes. From the fact that the heath was selected for the elections of the county of Middlesex, on which occasions dangerous mobs always collected, it is likely that most of the district was sparsely inhabited during the greater part of the eighteenth century. The old views of Hampstead suggest a region that might be a hundred miles from St. Paul's. When we learn that Sir RICHARD STEELE used occasionally to retire to a cottage, of which the existence is recalled by the present Steele's Terrace, we may assume that Hampstead was outside the limits which ordinary bailiffs cared to traverse. In 1745 it was advocated that the old church should be demolished because it was in a dangerous condition, and was not large enough to accommodate one-half of the parishioners and others who were desirous of attending Divine service. The "others" probably referred to strangers who visited Hampstead in summer.

Churches are of importance in the history and development of a district, and the building which is to be seen in Church Row was long the principal landmark. It was designed by HENRY FLITCROFT, or "BURLINGTON HARRY." Originally he was a working carpenter who, falling from a scaffold, had broken his leg at Burlington House. There was no Workmen's Compensation Act in those days, but the Earl, known to his contemporaries as an amateur architect, discerning signs of cleverness in some of his workman's drawings, took pity on him and obtained a post for him under the Board of Works. FLITCROFT prospered as an architect, and designed among other churches St. Olave's, Tooley Street, and St. Giles-in-the-Fields. His design for Hampstead Church was not carried out as he had arranged, owing to the want of funds. Originally it was intended that the tower should stand at the west end, but to save expense it was placed at the east end, the chancel being at the west, and the congregation have to pass the altar on entering. The interior of the building was transformed a few years ago by the late F. P. COCKERELL. The street or row of which it formed the termination was so old-fashioned and reposeful, houses in it were sought after by tenants who desired a change from the noise and excitement of London, but the true cause of the attractiveness was ignored, and Church Row now has to be valued on different grounds. Another protégé of Lord BURLINGTON is recalled by Frognal Hall, on the west side of the churchyard, viz. ISAAC WARE. His origin was humbler than FLITCROFT'S, for he was no more than a chimney-sweep. He also obtained a post with the Board of Works. To him contemporary architects were indebted for translations of PALLADIO and other works of Italian architects, with vigorous engravings by his own hand.

FLITCROFT and WARE may be considered as the earliest artists who, in spite of all the disadvantages of approach, selected Hampstead as a place of abode. Sir GODFREY KNELLER, no doubt, visited the Wells along with the members of the Kit Kat Club, but his stay was never long. HOGARTH also may have occasionally studied character there, for the *March to Finchley* is a scene on the Hampstead Road. REYNOLDS is likely to have accepted GOLDSMITH'S hospitality at the Holly Bush inn. The President's rival, GEORGE ROMNEY, however, imitated the example of FLITCROFT and WARE by electing to live at Hampstead. As the son of a carpenter, and from having worked at the bench, the painter imagined he was a practical builder. After the death of REYNOLDS, when he stood alone as a portraitist, and the animation imparted by competition was withdrawn, ROMNEY became languid and lost his zest for art. As a remedy he resolved to live with nature. A house was erected from his own designs and under his personal superintendence, on which he is said to have expended 2,733*l*. But in the erection he thought only of his art and everything was sacrificed to a painting room and gallery. ROMNEY was not fated to enjoy his new house on Holly Bush Hill. When HAYLEY, the poet, visited him for the last time in April 1799, he records his grief on perceiving that the increasing weakness in body and mind of the artist afforded only a gloomy look-out for the residue of his life. Although FLAXMAN testified that ROMNEY could make "an architectural design in a fine taste, as well as construct every part of the building," his Hampstead house was not appreciated for living in, and the only use that could be made of it after the owner's death was to demolish the greater part of it, and to erect an assembly-room on the site. Alderman BOYDELL, with whose Shakespeare Gallery ROMNEY was associated, also lived at Hampstead, and was colonel commandant of the local Volunteers. The painter who has done most to exalt Hampstead was not any of the men we have mentioned, but JOHN CONSTABLE. For him it rivalled his native place. In a letter to a friend he says:—"Our little drawing-room commands a view unsurpassed in Europe—from Westminster Abbey to Gravesend. The dome of St. Paul's in the air seems to realise Michel Angelo's words on seeing the Pantheon, 'I will build such a thing in the sky.'" At Hampstead he found subjects for several of his pictures, although such views as he describes are not now to be obtained from any house in Well Walk where he lived. Constable must have been happy in Hampstead, for not only did he paint it, but in 1836 he gave a series of lectures on art in the Assembly Room on Holly Bush Hill, where it was easy for him to suppose that the ghost of Romney was among the audience. Constable's friend and biographer, C. R. Leslie, was another admirer of Hampstead, and he used it occasionally for the foregrounds and backgrounds of his pictures. Another friend, and a kindred spirit, was William Collins, who was familiar with the place from boyhood, and who found the originals of many of his figures on or about the Heath. Tooly's Farm was for a number of years rented by the Linnells, and probably they have painted more pictures of Hampstead than Constable. Among the artists who came to see the elder Linnell were William Blake, Varley, the water-colour artist, John Flaxman and George Morland. It was from the summit of Primrose or Barrow Hill that Blake saw the spiritual sun, "not like a golden disc the size of a guinea, but like an innumerable company of the heavenly host, crying 'Holy, holy, holy!'" It was in one of the fields of the West End that Edwin Landseer at the age of six or seven made his first sketch of a cow, and in his boyhood he was very fond of sketching around Hampstead. B. R. Haydon, who was Landseer's master, and taught him how to dissect animals, was also delighted with the district. The Institute and Public Library was once the residence of Clarkson Stanfield, the marine painter, and the manliest of Academicians. Du Maurier utilised Hampstead in many of his drawings, sometimes transforming the alternations of the ground into mountains and valleys. Sir Gilbert Scott was among the residents, and his son, George Gilbert, occupied a house in Church Row.

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* *Sweet Hampstead and its Associations.* By Mrs. Caroline A. White. (London : Elliot Stock.)

The literary associations are in their way no less interesting. Steele, as we have said, used to flee from his creditors to Hampstead, and his circle of friends—Addison, Swift, Pope, Gay—no doubt often visited him. They were followed by many succeeding writers. But Hampstead was made a factor in modern literature when Leigh Hunt took a cottage in the Vale of Health. Few men have been the victims of more injustice. He was no doubt thriftless, and his wife was occasionally compelled to apply to the Carlyles for the loan of a saucepan or a few tea cups, which were duly booked by the lenders. Possibly also his weakness in counting money (he once sought in vain for three shillings and sixpence in a drawer where there were half-crowns and shillings), caused inconvenience and gave slight foundation for Dickens's cruel caricature of his friend in "Bleak House." There is, however, no doubt that Hunt was the first to reveal the importance of the Italian Renaissance to Englishmen. Critics who hated him for his political opinions might sneer about his "ninimy piminy story of Rimini," but he communicated his love of Italian literature and Italian art to Byron, Keats, Shelley and many others. The effect of his influence is stronger than ever among us. When he began to write it was not thought possible to instil any love of art, or literature, or even of nature into the mind of the average Cockney. Leigh Hunt had, therefore, to begin with the glorification of Italian boys who hawked plaster casts as if they were apostles of art. He had to inform citizens of London, as if it were a great discovery, that in every street of the city they could solace their eyes by the glimpse of a tree, and he spoke of places like Hampstead as if they were arcadias. Poor as he was, he tried to surround himself with beautiful things of some form or another, and when he was imprisoned for calling the Prince Regent a "fat Adonis" he contrived to cover the walls of his cell with paper which represented a trellis with vine branches. Now his efforts may appear as ridiculous as those of any infant trying to become a reformer, but in the gloomy days when he endeavoured to demonstrate that art was not entirely a luxury for a few amateurs, his attempts were those of a brave man, and he sacrificed his personal interests to his idolatry of art. Hunt was the centre of a group, for around him were gathered Keats, Shelley, Haydon, Hazlitt, Charles Lamb and others. Dickens also enjoyed Hampstead thoroughly, and in his life we meet with continual accounts of arrangements for walks to the Heath and dinners at Jack Straw's Castle with John Forster, Stanfield and Maclise. Indeed, for anyone who has the power of creating ghosts out of associations Hampstead will be found to be one of the most enjoyable suburbs around London. It cannot be described as remarkable for its architecture, and the utter disrespect for lines of frontage which once prevailed in it makes reform extremely difficult. The delight which the humbler class of the population of London take in Hampstead is not favourable to its advancement as a residential suburb, but in spite of all the changes it has undergone and the uses to which it is applied periodically, there are many who prize the district beyond all others.

The beautiful book which Mr. Stock has published must impart a new interest to Hampstead. Mrs. C. A. White is a practised writer, who has spent about half a century in amassing the materials which she has so skilfully utilised in the pages. As an enthusiast, the place has for her some of the qualities of a living being, and she is therefore able to turn everything, from a rent-collector's books or an advertisement, into an interesting object. With the aid of such a guide a visit to Hampstead is like an introduction to some delightful family that one would desire to meet again and again. Art, literature, politics, sociology are discussed, and the charm of the writer continues from first page to last. The illustrations are excellent.

ENFIELD.*

LATE last autumn I journeyed to Enfield for the first time, and came back regretting I had not seen it some ten or twenty years ago. I saw Norman moats and remnants of royal palaces, stately mansions and spacious parks and a grand old church where the memorials of the illustrious dead have been carefully preserved. The leaves were falling from the trees, but boundary walls and sides of houses, tree trunks and even the small branches were green with lichen, and everywhere an artist would have loved to linger. But the speculative builder had already been at work, and houses were springing up by thousands. Rapidly the work of demolition is going on, and during the present year the wrought-iron screen and gates of Gough's Park have been taken away, and a couple of streets are being formed across the moat where Henry de Bohun, Earl of Hereford and Constable of England, was permitted to embattle his manor-house.

In the days of Edward the Confessor the manor belonged to Asgar, master of the King's Horse, and by the Conqueror it was given to Geoffrey de Magnaville, or Mandeville, one of his followers. The De Bohuns were the next owners, and when Humphry, the last of the that family, died in 1371, the property passed to his daughter Alianora, Duchess of Gloucester, a familiar figure in Shakespeare's "Richard the Second." Her sister Mary, wife of Henry, Duke of Lancaster, afterwards King Henry IV., was the next owner, and eventually the manor was annexed to the Duchy of Lancaster. By Richard III. it was given to the Duke of Buckingham, who only held it for a year, and on his attainder in 1484 it again reverted to the Crown, and by Edward VI. it was granted for life to his sister, the Princess Elizabeth. But ere this the home of the De Bohuns had fallen into decay, and near at hand a royal palace had been built, and the site of the old house in time became known as Oldbury Meadow. The internal parallelogram measured about 96 yards by 40 yards. The keep, it is believed, was at the north-west corner, and the well was at the south-east corner—opposite. There seems little reason for its destruction, as it was offered to the local authorities for a very small sum. Trees surrounded the moat and added beauty to the spot, and during the winter rains the water had reached a height of 6 feet. At a trifling expense a very picturesque garden could have been obtained for the permanent pleasure of an ever-increasing population.

There were so many manors at Enfield, and two of them were royal, it is not easy to determine where certain events took place, and though the children of Henry VIII. may have been brought up at Elsynge Hall, as some writers suppose, I prefer to picture them in sight of the old church, and it seems natural that Edward VI. would have retained the home of her childhood for Elizabeth. She was there at the time of Henry's death; and Prince Edward, who was then at Hertford Castle, was brought to Enfield by the Earl of Hertford and Sir Anthony Brown, and in the presence of his sister he was first told of his accession to the throne. Holinshed tells how four years previously, on New Year's Day, 1543, the Scottish nobles who had been made prisoners at Solway Moss, on their return "departed from London towards Scotland and roade to Enfield to see the prince, and dined there that day."

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* A paper read by Mr. W. F. Harradence at the visit of member of the Upper Norwood Athenæum.

When Mary removed her sister from Enfield the palace was let in succession to various gentlemen, one of whom was Sir Nicholas Raynton. About 1660 it was taken by Robert Uvedale, the master of the Grammar School, who afterwards obtained the degrees of Doctor of Laws and Doctor in Divinity. Altered and rebuilt, as many parts of the palace have been since Edward VI. restored it for his sister, a portion of the centre and the south wing of the Tudor building, with its tall brick chimneys, still remains at the back, and within there are richly ornamented ceilings, oak-panelled walls, and a massive chimneypiece standing on Ionic and Corinthian columns, and here are seen the letters "E. R.," with the arms of England and France quartered, the rose and portcullis, the lion and the gryphon and the motto, "Sola salus servire Deo, sunt altera fraudes." Preserved on the wall of the same room is a portion of a chimneypiece from upstairs, with the motto, "Vt ros super herbam est benevolentia Regis." Uvedale was a botanist, and in his "greens" he grew oranges, myrtles and other rare plants, and the story runs that one of his private pupils brought over a cedar seed from Mount Libanus, which the doctor planted and reared. It is regarded as the first cedar ever grown in this country, and unquestionably it is the largest. In 1788 a four-page folio was published respecting it. Mr. Lilley, a schoolmaster of Enfield, measured the tree, when its height was 45 feet 9 inches. Prior to that, in 1703, 8 feet of the top had been broken off by a high wind. In November 1794 a gale from the north-west snapped off the whole of the upper portion. In 1873 its girth, 3 feet from the ground, was 16 feet 2 inches. At that time a seat ran round the tree, so that a lower measurement could not be taken. Two of its seedlings can now be seen in the Old Park. Since Uvedale's time the palace has been in the hands of a lavender planter, another pedagogue, and it is now leased to the Postmaster-General.

Of the building of the first church at Enfield no record remains. In the Domesday Survey it is not mentioned, but in the ownership of the land it is stated that the parish priest has a virgate, so possibly in his own dwelling the first services were held. At that time the district was known as Enefeld, which may be accepted to mean a forest clearing. Norden, however, quotes its earlier names as Enfen and Infen, which he associates with a fen. Its later names, Enfeld, Enefield, Endfield and Enfield have reminded other etymologists that it is the end or last piece of land on the north side of Middlesex. To the monks, however, of the abbey of St. Mary and St. James at Walden Parva the building of a permanent church undoubtedly belongs, and the Rev. George Harold Culshaw, M.A., who has consulted the Chartulary of the Abbey and other documents, states that the first vicar was Robertus, who was there in 1190. From the list of the vicars which Mr. Culshaw has compiled, it is interesting to note that in 1550 Christopher Downes, D.D., was the vicar. Under date of 1650 the name of Walter Bridges appears, and in the survey of the benefice it is mentioned that "he is an able and painful preacher." In 1721 Robert Uvedale, D D., held the living, and the present vicar is the Rev. George Hewitt Hodson, M.A., Prebendary of Newington in St. Paul's Cathedral, and rural dean.

The church is dedicated in honour of St. Andrew. The body of the church is fourteenth-century work, the clerestory late fifteenth, and the north aisle sixteenth. It is constructed of flint and stone, and is covered with cement. It was enlarged and altered in 1824, and was restored in 1866, at which time the modified lancet window with the hagioscope under it in the south wall of the chancel was opened. The altar of Our Lady stood in the north aisle, where the Blossom Chantry was founded in 1418. The Radyngton Chantry had been founded in 1398, and was presumably in the south chancel aisle. Over the arches of the nave there are the devices of a rose and a wing, which it has been suggested by Lysons was the rebus of one of the priors of Saffron Walden. The same design appears on the tower of Hadley Church with the date 1444. Hadley, like Enfield Church, was the property of the Abbey. In volume 93 of the *Gentleman's Magazine* there is an illustration of the Day of Judgment from a painted panel that was then in the church. The oldest monument is the altar tomb to Lady Jocosa, daughter and co-heiress of Charlton, Lord Powes, and wife of John Baron Tiptoft; she died in 1446. The mensa is of grey Purbeck marble, and measures about 8 feet 6 inches by 3 feet 5 inches. The brass represents the lady habited in a surcoat faced with ermine, over which is a mantle embroidered with the arms of Charlton and Holland. Her head-dress is a network cap and short veil, above which is a crown. The canopy above the tomb was erected in the sixteenth century by an Earl of Rutland, who claimed kinship with the lady, and the present Duke of Rutland keeps it in repair. On the floor of the north aisle there is a brass to William Smith, who died in 1592, and his wife Jane. It is stated that in his life he served "King Henry the Eighth, King Edward the Sixth, Queen Marie and now Queen Elizabeth." Among the more interesting monuments the following will be noticed. A kneeling effigy of Robert Deicrowe, who died in 1586, in the north aisle. In the south gallery there is a small kneeling effigy of Francis Evington (alderman of London), who died in 1614. In the north chancel aisle there are effigies of Sir Nicholas Raynton, of Forty Hall, who died in 1646, and of his wife Rebecca, who died in 1640. He wears his mayoral robe, showing a suit of armour beneath; his wife is dressed as lady mayoress. Beneath them are small kneeling figures of their two sons and three daughters and a dead baby. In the south chancel aisle there is a marble monument of Thomas Stringer, M.P., of Durants, who died in 1706. About the centre of the south aisle will be noticed a tablet to John Abernethy, surgeon, who died in 1831, on April 20, aged sixty-seven. Shakespeare would have us believe that there is nothing in a name, but if we carefully shuffle the letters "John Abernethy," we change them into "Johnny the bear," which fairly describes the plain-spoken doctor's characteristics. A couple of inscriptions let into the east wall of the south aisle are worth quoting; the one runs:—

> "Here lyeth the boddey of Iames Wrothe the onlye sone of Sr Robert Wroth knight and of the Lady Mary Sidne his wife eldest davghter of the Lord Viscovnt Lysle who died the 5 of Ivlye 1616 aged 2 yeares and 5 moneths."

The other, which is slightly defaced, is to "Sir Thomas Stringer, Knt., sergeant-at-law in King Charles the Seconds . . . one of the Judges of the King's Bench in the raigne of King James the Second. Dyed the Second of October, 1689, aged . . . years."

The old organ was given to the church by Mrs. Mary Nichols in 1752; its front adjoins the west wall.

The great park or outer park, which was a portion of the Great Forest of Middlesex, was not known as Enfield Chase until the reign of Edward II. It originally extended to Hadley, Barnet, Edmonton, Southgate, Winchmore Hill, South Mimms, Northaw and Potter's Bar. In the "Progresses of Queen Elizabeth" we read how while a prisoner at Hatfield she was brought by Sir Thomas Pope to hunt in the Chase. Ladies in white, yeomen in green and archers in scarlet and yellow attended her, and a very bright effect must have been produced. The three chief lodges to the Chase were known as the east, west and south baileys. In the survey made in 1650 the east bailey is called Potter's Lodge. It was a brick building covered with tiles, and was used by Charles I. as a hunting lodge. Delighted with the royal hunting ground, James I. induced Sir Robert Cecil to give him Theobalds in exchange for Hatfield, and immediately on obtaining it James extended the grounds by enclosing 500 acres of the Chase.

Gough's Park was inherited from his father by Richard Gough, the antiquary, and thirty-three years of his life he spent there, bringing back to us the story of the past. His manuscripts were bequeathed to the Bodleian Library at Oxford, where they are preserved. The Rev. Daniel Lysons, to whose "Environs" so many of us are indebted, was in communication with him, and for this reason I have sometimes accepted Lysons's opinions rather than Ford's or Robinson's.

White Webbs Park was a portion of the Chase. The house in 1570 was granted by Queen Elizabeth to Robert Huicke, her physician in ordinary. The grant included a conduit head, vaults, pipes, &c. It was one of the several houses associated with the Gunpowder Plot. Guido Vaux had visited it on several occasions, Mrs. Vaux had spent a month there, and Garnet, the Jesuit, had celebrated Mass there. When the house was searched it was stated to be full of trap doors and passages, but nothing more criminating than Popish books were found, as Rome Lane, the way to the entrance, was for some time known. In 1653 the property was in the possession of Dr. Bockenham, and the later owners were the Garnault family. The house was demolished in 1790. Thorne suggests that the little ale-house, King James and the Tinker, was a part of one of the outbuildings, and as the walls of the cellar are more than six feet thick it is probable that at one time they supported a building of some importance. The present White Webbs House was built in 1791 by Dr. Wilkinson. White Webbs Park, I understand, has recently been purchased by Lady Meux, who also owns Theobalds, where Temple Bar was erected. The ballad of "King James and the Tinker" records how James I. when out hunting strayed away from his courtiers, and pulled up at the little ale-house and joined a tinker who was sitting in the porch drinking some nappy brown ale. The king called for like refreshment, and in conversation with the tinker heard that the king was out hunting, and the tinker would dearly love to see him. "If you will mount behind me," said the king, "you shall have your wish;" and the tinker, taking him at his word, mounted, and they rode away. "But how shall I know the king?" queried the tinker. "Oh! that will be easy enough," said James, "for all the courtiers will be bareheaded." The king duly reached his attendants, and the tinker, being puzzled, said, "But which is the king?" "Well," said James, "it's either you or I, for everyone else is uncovered." The tinker slipped to the ground, and on his knees begged for mercy. The king, mightily pleased at the joke, at once knighted him, and gave him five hundred a year.

In this necessarily brief paper I have not attempted to paint a picture of Enfield past or present, but have merely taken some hurried snapshots, which are still undeveloped. In other parts of Enfield there are motes and far-stretching parks; there are houses where men have lived who have made their names famous in law and literature, and there are historic mansions that belonged to nobles and to courtly knights, and in some of them collections of art treasures can still be seen. At a future date another visit may be paid to Enfield, and then its fuller story can be told.

THE ARCHITECTURAL ASSOCIATION.

THE annual dinner of the Association was held on Thursday evening, the 31st ult., at the Criterion Restaurant, Mr. G. H. Fellowes Prynne, president, in the chair.

Among those present were the Bishop of Rochester, Rev. A. B. Boyd-Carpenter, Mr. Wm. Emerson, Sir H. Howorth, Colonel Ottley, Professor Hulme, Professor R. E. Smith, Messrs. H. L. Florence, B. Champneys, E. W. Mountford, W. E. Riley, B. Pite, T. Blashill, F. W. Pomeroy, W. J. Locke, H. W. Pratt, L. A. Stokes, A. Jacob, E. Hall, F. Machin, H. Holloway, H. Lovegrove, C. Wall, G. Tolley, H. T. Hare, E. Howley Sim, W. H. Seth-Smith (president elect), Rev. J. Beaby, Hon. A. McGarel Hogg, Rev. W. J. B. Wonnacott, Messrs. G. B. Carvill, A. Stalman, S. Constanduros, L. Butler, A. J. Dalton, E. Carless, S. C. Arding, W. E. Davis, W. G. B. Lewis, E. Greenop, R. Dircks, R. G. Booth, W. Wonnacott, G. S. Fleetwood, R. H. M. Bowen, W. C. Williams, — Buckingham, C. Reader, G. Trotman, R. Lovell, R. H. Weymouth, H. G. Tayler, G. Bailey, A. Wingate, H. E. Rider, W. Thornton, C. Brée, F. W. Macey, P. Buckman, T. C. Yates, P. L. Forbes, G. H. Smith, R. S. Balfour, F. R. Taylor, F. W. Foster, J. F. Bull, H. A. Satchell, H. G. Turner, M. Garbutt, E. Prynne, E. Symons, W. A. Forsyth, W. A. Pite, A. S. Flower, D. Seth-Smith, H. Prynne, R. H. Hale, E. Runtz, F. G. F. Hooper, F. R. Farrow, H. Hart, D. Wood, C. Trollope, A. Bolton, and D. G. Driver (secretary).

The toast of the Queen and Royal Family was passed with enthusiasm.

The President, who proposed "The Church and the Legislature," said that as artists they belonged to no particular party in politics, nor to any party or narrow-mindedness in religious thought. Art as art had no distinction; they admired it wherever they saw it, whether it was in the cathedral or elsewhere. Who could gauge the enormous influence upon architecture that the Church had had in England and in other lands? The greatest incentives in all ages had been religious incentives to build nobly, and religion was the great lever to help men forward. Man's highest monuments had been those raised to the glory of God, and second only to the natural invocation had been the national instinct, that one desire to pass on from age to age the history of the largest empire the world had ever known. They were not satisfied with the buildings they saw being erected around them. They did not tell the history of the nation chiefly because there was a mean economy which cut down the expenses of their proper completion. Church architecture and national works had great influence on the mind of a nation, and to the world they proclaimed our greatness or weakness, our poverty or our wealth. The time was pregnant, and by buildings the nation should record its power.

The Bishop of Rochester said that they who represented the Church and those who represented architecture owed a great deal to one another. If the question were asked what were the noblest outward possessions of the Church in this country, the answer would be the cathedrals erected by the men of the Middle Ages, to whom the Church gave the best opportunities. The ecclesiastic and the architect were perhaps at one time one and the same man. As the clergy and the architect were so mutually related, both were considerably affected by each other's shortcomings, and each could give admirable examples of the other's weakness. There was, however, a connection between architecture and the higher faiths, and he was sure that the great uplifting power of humanity in the future would be the relation between its highest spheres of activity and the highest creative forms of its spirit, and similarly between religion and all the forms of art, architecture most decidedly included. Architecture should have working through it a religious spirit ennobling it, and yet bearing a human stamp showing it was inspired.

Sir H. Howorth, who responded for the Legislature, pointed out the difficulty with which any question of art could be happily dealt with in Parliament. In the House of Commons they had the greatest marvel in buildings, if they remembered how debased the middle portion of the Victorian era was in its standards of taste. It was very remarkable that such men as Barry and Pugin should have been allowed so much freedom in their work.

Mr. Beresford Pite proposed "The Royal Academy and the R.I.B.A." He said the Academy represented the allied and sister arts, as the Institute represented the mother of the architectural arts. There was a link between the two, as the architect could not obtain a complete view of his own art if he was out of sympathy with the sister arts. The Royal Academy included sculpture, which was an architectonic art, and they could not be blind to that which had been called the spiritual elements of Greek art, exemplified in the underlying beauty of the Greek sculptures. The highest expressions of Greek architecture were allied to sculpture. Their own art generally was comparatively dumb; there was no opportunity of direct appeal to the intellect. They had to deal with facts and build a golden bridge between the baser use of life and its higher motives. They had to impart their own conception of the fitness and beauty and the dignity that should be associated with a noble building. These were the problems of their life's work; they had to ennoble that which they touched.

Mr. Wm. Emerson, in responding to the toast, said he had the deepest sympathy with all the movements of the Association. As young men he knew they desired a higher status in the way of art, and were anxious to promote education, making the future body of architects the highest and ablest. The system of entering for competitions on purely personal grounds was wrong, especially when the conditions, of which there had been so many instances, were absolutely unfair.

The Rev. A. B. Boyd Carpenter proposed "The Architectural Association" in most eloquent language. Architecture, he said, was a great profession and closely allied to religion. In all art, the motive which animated the worker was important. It was this which differentiated a trade or a profession, and the man who felt the sanctity of his gifts would never degrade the productions of his hand. The Association was young, but they had become a great teaching body, and he hoped the results of their labours would enable them to interpret the spirit of the age.

The President, who responded, said the position of the Association was misunderstood. They were an independent association working on their own lines, and from the small body of enthusiastic young architects who had formed the Association they had grown into a membership of 1,318; their list of past presidents included men in the front rank in the architectural profession. The primary object of the Association was education with the simple and earnest motive of helping their great art, in which endeavour the officers and committee had worked splendidly. As to their new president, Mr. Seth-Smith, he felt that he was just the man for the post.

Other toasts followed.

A musical programme was given throughout the evening.

BRISTOL SOCIETY OF ARCHITECTS.

THE monthly meeting of this Society was held at the Fine Arts Academy on the 28th ult., Mr. Frank Wills, the president, in the chair. A vote of condolence with the family of the late Mr. W. Bruce Gingell, one of the oldest and most respected members of the Society, was moved by the President and seconded by Mr. Joseph Wood, vice-president, both gentlemen testifying to the high esteem in which the late member was held both by his clients and professional colleagues. Two new members were then balloted for and duly elected, after which a presentation of a very handsome silver salver was made to the hon. sec. (Mr. H. Dare Bryan), who is shortly to be married. The President, in making the presentation, alluded in felicitous terms to the appreciation which all the members felt of the valuable services that the secretary had rendered to the Society. Mr. Mowbray Green, A.R.I.B.A., of Bath, then read a paper on "The Renaissance Architecture of Bath and Neighbourhood." The paper was illustrated by a very complete set of photographs taken by the lecturer and shown by means of the lantern, and very fully exhibited that particular phase of architecture for which Bath is so celebrated; the work of the middle of the last century done by the Woods, father and son, Baldwin and others was described, and the great improvement in the laying-out and enlargement of the city, due almost entirely to the artistic and business ability of the elder Wood, was clearly shown by means of maps and drawings. On the motion of Mr. Harold Smith, seconded by Mr. W. L. Bernard, a very hearty vote of thanks to the lecturer for his interesting paper was carried with acclamation, and Mr. Green having responded, the proceedings terminated.

NOTES AND COMMENTS.

EVERY year lectures are delivered in Paris, by order of the Minister of Public Instruction and Fine Arts, in connection with the casts and other examples illustrative of the work of the Commission of Historic Monuments. This year the course will be of exceptional interest. The first was delivered yesterday by M. ANATOLE DE BAUDOT, inspector-general of diocesan edifices, on the Architecture of the Mediæval and Renaissance Periods; the second by him, on the same subject, will be delivered next Thursday. M. EDMOND HARAUCOURT will on the 21st inst. treat of the Museum of Comparative Sculpture. On the 28th inst. M. ALBERT BALLU, the architect-in-chief of historic monuments in Algiers, will describe the ruins of Tingad, which have excited the wonder of all visitors. M. LUCIEN MAGNE, one of the professors at the Ecole des Beaux-Arts, will lecture on July 5 upon Stained Glass. The subject for the lecture on July 12 will be the State and Historic Monuments, which will be explained by M. LUCIEN PATTE, one of the chief officials of the Department. M. ANDRÉ-MICHEL, conservator of the Louvre, will on July 19 lecture on Sculpture in Mediæval and Renaissance Times. On July 26 M. CHARLES GRANDJEAN will describe the Conservation of Historic Monuments in Other Countries. The last of the series will be given on August 2 by M. CAPETAN, and will relate to Megalithic Monuments. With one exception all the lectures will be delivered in the Trocadéro Museum.

THE new railway terminus on the Quai d'Orsay, Paris, is now complete, and M. LALOUX has received many commendations for its success. In one way it is an innovation, for sculptors and painters have been called upon to enhance the architectural effect by their works. The designer of the Galerie des Machines in the Champ de Mars knows how to make the most of his metal beams and columns. If unadorned the terminus would, as an example of construction, be considered a most interesting work. The façade is surmounted by statues which typify Bordeaux, Toulouse and Nantes. All the paintings in the hall are not completed, but amateurs will be gratified by the views of *Biarritz* and the *Loire at Amboise*, which are incursions into the field of landscape by the figure-painter, M. CORMON. In the adjoining hotel M. BENJAMIN-CONSTANT has painted the ceiling of the reading-room, M. GABRIEL FERRIET has executed three panels of *Dawn*, *Day* and *Night* for the dining-room, and M. FRIDEL has introduced allegories of *Fortune* and *Labour* in the Salle des Fêtes. Not the least remarkable circumstance connected with the building is the expedition with which it has been constructed. All that is to be seen was produced in less than a year.

THE awards of the médailles d'honneur in the section of painting of the International Exhibition of Paris will not excite much surprise, for nearly all the successful artists have already gained general renown. England is represented by Sir L. ALMA-TADEMA and Mr. W. A. ORCHARDSON. Mr. SARGENT and Mr. WHISTLER, the credit of whose works could be claimed by England and France, have become the representatives of the United States. The French painters are MM. HENNER, CAZIN, DAGNAN-BOUVERET, HARPIGNIES, HÉBERT, ROLL and VOLLON. M. STRUYS is the favoured Belgian artist, a selection which will hardly be generally endorsed by public opinion. It was inevitable that M. ISRAELS should gain the medal as a Dutchman. The remaining awards are as follows:—Germany, Professors LEMBACH and KLIMT; Spain, Señor SOROLLA Y BASTIDA; Denmark, M. KROYER; Norway, M. THAULOW; Russia, M. SEROF; Sweden, M. ZORN.

SANGUINE people believed that in the curriculum of the Universities the fine arts should hold a place, and with that object professorships, travelling studentships and other expensive aids to obtaining information were established. But from what has occurred at Cambridge, it is now manifest that to the Classics, using the word in its old-fashioned acceptation, everything else is to be sacrificed. It has been declared that the setting of special papers on so many subjects, for a course of one and two-thirds or two and two-thirds years, viz. grammar, philology, history, antiquities, literature, philosophy, sculpture and architecture, must result in encouraging systematic superficial cramming and discouraging both scholarship and specialisation with the mental training involved in both. Mr. J. E. NIXON, of King's College, who was generally considered to be a representative of new methods and of a wider system of education, while opposing the proposal in general, expresses his willingness to throw over sculpture and architecture, and we may therefore conclude that, except among those who are especially connected with the two arts, neither architecture nor sculpture has many friends at Cambridge. It is quite possible that few, if any, sculptors and architects have attended the University lectures. But there is a necessity for the education of patrons of those arts as well as of architects.

IT has been supposed of late that the London Corporation is inspired by a new and more liberal spirit, and may be held up as an example for imitation by other municipal bodies. It cannot, however, be said that the proceedings in connection with the new Sessions House in the Old Bailey are altogether satisfactory. As much secrecy has been imposed as if the project were in the early years of the century. The procedure adopted may be conducive to insuring the selection of the best design, but there would be an outcry if a similar practice occurred in one of the provincial cities. What harm, for example, would arise if the suggestion were adopted that members of architectural societies and representatives of newspapers should be allowed to see the designs? It is not likely that the admission of these visitors could in any way affect the ultimate decision or cause the least injustice. All that is known to the public is that Mr. Justice GRANTHAM and Mr. Justice WILLS have offered suggestions about some of the features; but for so important a building others besides judges might also be able to render some service by the expression of their opinion. The building is expected to cost at least 265,000*l.*, and we suppose will contain several novelties in the arrangements. When so much is at stake it is not altogether wise to keep the affair concealed from all but a remarkably limited number of individuals.

ILLUSTRATIONS.

WESTMINSTER ABBEY: SOUTH AISLE, HENRY VII'S CHAPEL. SOUTH AISLE, HENRY VII.'S CHAPEL, LOOKING WEST.

MODEL OF STATUS OF MR CECIL RHODES. PANELS AT BASE OF MR. CECIL RHODES'S STATUE.

THE words of Chancellor OXENSTIERNA, "Nesmicis, fili, quantilla prudentia homines regantur," which, freely translated, means, "Behold, my son, with what little wisdom the world is governed," could never be more fitly applied than in the present week when the Boer oligarchy collapsed. Even the native farmers must at last perceive how fallacious was the trust which they reposed in the leaders. It has cost England an enormous outlay in men and money to be convinced of the rottenness of the Boer system, which would have been spared if the warnings of the man who is the subject of one of our illustrations had been attended to. Twenty years ago he realised that the formula, "Africa for the Dutch," was expressive of a resolution of which the consequences to Great Britain could not be foreseen. He met it with a counter formula of "An United South Africa as a part of the British Empire," and after much obloquy Mr. RHODES has the satisfaction of knowing that Time has been his vindicator. Like all truly great men Mr. RHODES is a believer in realism, and the portrait statue for which he stood represents him as he appears every day in a plain office coat, and not striking an heroic attitude. The figure is therefore as characteristic of him as any of his downright speeches, and it is to the credit of the sculptor to have produced a figure which posterity can accept as a veritable portrait of a civilian who was the equal of any of our Empire builders.

ARCHITECTURAL ADDITIONS, LINCOLN: JOHN O'GAUNT'S HOUSE. NO. 8 EASTGATE.

THE illustrations show parts of old houses, and have been altered and fitted as doctors' residences, under the direction of Mr. HENRY G. GAMBLE, architect, Mint Street, Lincoln.

ARCHITECTURAL ACOUSTICS.—VI.*

IN this paper will be given all the data ordinarily necessary in calculating the reverberation in any auditorium from its plans and specifications. In order to show the degree of confidence to which these data are entitled, a very brief account will be given of the experiments by means of which they were obtained. Such an account is especially necessary in the case of the determination of the absorbing power of an audience. This coefficient is, in the nature of things, a factor of every problem, and in a majority of cases it is one of the most important factors; yet it can be determined only through the courtesy of a large number of people, and even then is attended with difficulty.

The formulas that will be used for the calculation of absorbing power are numbers (13) and (15) in the preceding paper, the correcting terms being at times of considerable importance. The application of these formulas having been illustrated, the whole discussion here will be devoted to the conditions of the experiments and the results obtained.

In every experiment the unavoidable presence of the observer increases the absorbing power. In small rooms, and in large rooms if bare of furniture, the relative increase is considerable, and should always be subtracted from the immediate results of the experiment in order to determine the absorbing power of the room alone. The quantity to be subtracted is constant provided the same clothes are always worn, and may be determined once for all. For this determination another observer made a set of experiments in a small and otherwise empty room before and after the writer had entered with a duplicate set of apparatus—air tank, chronograph and battery. In fact, two persons made independent observations, giving consistently the result that the writer, in the clothes and with the apparatus constantly employed, had an absorbing power of 0·48 of a unit. For the sake of brevity no further mention will be made of this, but throughout the work this correction is applied wherever necessary.

In the second paper of this series a preliminary calculation was made of the absorbing power of certain wall surfaces, and the object in so doing was to get an approximate value for the absorbing power of glass. It had already been decided that the most convenient unit of absorbing power was a square metre of open window. It is evident, however, that the process of opening a window during the progress of any experiment is merely substituting the absorbing power of the open window for that of the same window closed—a consideration of possible moment in the nicer development of the subject. This preliminary calculation was in anticipation of and preparation for the more close analysis in the fifth paper. If these coefficients are now recalculated, using the corrected formulas of the fifth paper, we arrive at the following results:—Cement and brick set in cement 0·025, glass 0·027, and wood sheathing 0·061.

The experiments in the Boston Public Library gave results that are interesting from several points of view. The total absorbing power of the large lecture-room was found to be 38·9 units, distributed as follows:—A platform of pine-sheathing, exposing a total area of 70 square metres, had an absorbing power of 70 × 0·061 = 4·3; 72 square metres of glass windows had an absorbing power of 72 × 0·028 = 1·9; three large oil-paintings, with a total area of 17·4 square metres, had an absorbing power of 17·4 × 0·28 = 4·9. The remainder, 27·8 units, was that of the cement floor, tile ceiling and plaster on tile walls, in total area 1,095 square metres. This gives as the coefficient of absorption for such construction 0·0254. A similar calculation of results obtained in the attendants' room in the same building—a room in which the construction of the floor, walls and ceiling is identical with that in the lecture-room—gives for the value of the co-efficient 0·0255. The very close agreement of these results and their agreement with the co-efficient, 0·0251, for cement floor and solid walls of brick set in cement in the constant temperature room, is satisfactory. However, a far more interesting consideration is the following:—

Heretofore in the argument it has been assumed tacitly that the total absorption of sound in a room is due to the walls, furniture and audience. There is one other possible absorbent, and only one—the viscosity of the vibrating air. It is now possible to present the argument which led to the conclusion that this viscosity of the air throughout the body of the room is entirely negligible in comparison with the other sources of absorption. These two rooms in the Boston Public Library—the lecture-room and the attendants' room—had, in their bare and unfurnished condition, less absorbing power in the walls than any other rooms of their size yet found. Therefore, if the viscosity of the air is a practical factor, it ought to have shown in these two rooms if ever. Fortunately, also, the two rooms differed greatly in size, the volume of one being about thirty-five times that of the other, while the ratio of the areas of the wall surfaces was about twelve. That portion of the absorption due to the walls was proportional to the areas of the walls, and that portion due to the viscosity of the air was proportional to the volumes of the rooms. As a matter of fact, the experiments in these two rooms showed that the whole absorbing power was accurately proportional to the areas of the walls; how accurately is abundantly evidenced by the agreement of the two coefficients, 0·0254 and 0·0255, deduced on the supposition that the viscosity of the air was negligible. To express it more precisely, had the viscosity of the air been sufficient to produce one-fiftieth part of the absorption in the attendants' room, these two coefficients would have differed from each other by 4 per cent., an easily measurable amount. It is safe to conclude that in rooms as bare and non-absorbent as these the viscosity of the air is inconsiderable, and that in a room filled with an audience it is certainly wholly negligible. Rooms more suitable for the demonstration of this point than these two rooms in the Boston Public Library could hardly be designed, and access to them was good fortune in settling so directly and conclusively this fundamental question.

The experiments to determine the absorbing power of plastered walls show it to be variable. If the plaster is applied directly to tile or brick the absorbing power of the resulting solid wall is uniformly 0·025. But if the plaster is applied to lath held out from the solid wall by studding, the absorbing power is not nearly so constant, varying in different rooms. The investigation of this has not been carried far enough to show with absolute certainty the cause, although it probably arises from the different thickness in which the plaster is applied. For the examination of this point two modes of procedure are possible—experimenting in a large number of rooms, or experimenting in one room and replastering in many different ways. The objection to the first method, which appears the more available, is that it is almost impossible to get accurate information in regard to the nature of a wall unless one has complete control of the construction. Moreover there are probably interesting variations that cannot be found in use, but that, if tried, would be fruitful in suggestions for future construction. The second method—experimenting in one room, plastering and replastering it with systematic variations and careful analysis of the construction in each case—would be the most interesting, but the expense of such procedure is, for the time being at least, prohibitive. Among the interesting possibilities, of which it can only be said that the experiments so far point that way, is that with time the plastered walls improve in absorbing power—how rapidly has not been shown. This change can be due, of course, only to some real change in the nature of the wall, and the most probable change would be its gradual drying out. Experiments in four rooms with plaster on wood lath gave as the average absorbing power per square metre 0·034 of a unit. Experiments in eight rooms with plaster on wire lath gave as the average co-efficient of absorption 0·033. In both cases the variation among the different rooms was such that the figure in the third decimal place may be greater or less by three, possibly, though not probably by more. The fact that a considerable part of the wall surface of several of the rooms was of uncertain construction is partly responsible for this uncertainty in regard to the coefficient. For the sake of easy reference and comparison these results are tabulated, the unit being the absorbing power of a square metre of open window area.

Absorbing Power of Wall Surfaces.

Open window	1,000
Wood sheathing (hard pine)	0·061
Plaster on wood lath	0·034
Plaster on wire lath	0·033
Glass, single thickness	0·027
Plaster on tile	0·025
Brick set in Portland cement	0·025

Next in interest to the absorbing power of wall surfaces is that of an audience. During the summer of 1897, at the close of a lecture in the Fogg Art Museum, the duration of the residual sound was determined before and immediately after the audience left. The patience of the audience and the silence preserved left nothing to be desired in this direction, but a slight rain falling on the roof seriously interfered with the observations. Nevertheless, the result, 0·37 per person, is worthy of record. The experiment was tried again in the summer of 1899, on a much more elaborate scale, and under the most favourable conditions, in the large lecture-room of the Jefferson Physical Laboratory. In order to get as many data and from as independent sources as possible, three chronographs were electrically connected with each other and with the electro-pneumatic valve controlling the air supply of the organ pipe. One chronograph was on the lecture table, and the other two were on opposite sides in the rear of the hall. The one on the table was in charge of the writer, who also controlled the key turning on and off the current at the four instruments. The other two chronographs were in charge of other observers, provision being thus made for three independent determinations. After a test had been made of the absorbing power of the whole audience—157 women and 135 men, sufficient to crowd the lecture-room—one-half, by request, passed out, 63 women and 79 men remaining, and observations were again made. On the following night the lecture was repeated and observations were again taken, there being present 95 women and 73 men. There were thus six independent determinations on three different audiences and by three observers. In the following table the first column of figures gives the total absorbing power of the audience present, the second gives the absorbing power per person; the initials indicate the observer.

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* A paper by Professor Wallace C. Sabine, Harvard University.

	Observer.	Total Absorbing Power.	Absorbing Power per Person.
First night, whole audience	W. C. S.	123	0·42
First night, whole audience	G. LeC.	113	0·39
First night, half audience	W. C. S.	58·3	0·41
First night, half audience	G. LeC.	58·3	0·41
Second night, whole audience	W. C. S.	66·2	0·40
Second night, whole audience	E. D. D.	64·8	0·39
			0·40 (3)

In view of the difficulties of the experiment the consistency of the determination is gratifying. The average result of the six determinations is probably correct within two per cent.

It is to be noted, however, that this value, 0·40, is the difference between the absorbing power of the person and the absorbing power of the settee and floor, which as an absorbent took the place of the audience when it left the room. It is evident that the experiments determined the difference between the two, while in subsequent calculations we shall be concerned with the absolute absorbing power of the audience. To determine this, on a following night all the settees were carried out of the room, observations being taken before and after the change. From the data thus obtained the absorbing power of each settee accommodating five persons was found to be 0·039, or for a single seat 0·0077. Of necessity the floor still remained, but from a knowledge of its construction the absorbing power of as much of the floor as is covered by one person was calculated to be 0·030. Adding these together, we get as the absorbing power of an audience, seated with moderate compactness, 0·44 per person.

In some subsequent work it will be necessary to know the absorbing power of an audience, not per person, but per square metre, the audience being regarded broadly as one of the bounding surfaces of the room. As each person occupied on an average 0·46 of a square metre of floor area, it is evident that the absorbing power per square metre was 0·96 of a unit.

Under certain circumstances the audience will not be compactly seated, but will be scattered about the room and more or less isolated, for example, in a council-room or in a private music-room, and it is evident that under these conditions the individual will expose a greater surface to the room and his absorbing power will be greater. It is a matter of the greatest ease to distinguish between men and women coming into a small room, or even between different men. In fact, early in the investigation two months' work—over three thousand observations—had to be discarded because of failure to record the kind of clothing worn by the observer. The coefficients given in the following table are averages for three women and for seven men, and were deduced from experiments in the constant temperature room:—

Absorbing Power of an Audience.

Audience per square metre	0·94
Audience per person	0·44
Isolated woman	0·54
Isolated man	0·48

When an audience fills the hall one is but little concerned with the nature of the chairs, acoustically; but otherwise this becomes a matter of considerable importance. The settees in the lecture-room of the Physical Laboratory are of plain ash, and have solid seats and vertical ribs in the back; they are without upholstering, and it is interesting, in order to note the agreement, to compare the absorbing power of such settees per single seat (0·0077) with that of the "bent-wood" chairs in the Boston Public Library (0·0082), which are of very similar character. In contrast may be placed the chairs and settees in the faculty-room, which have cushions of hair covered with leather on seat and back. In the same table will be entered the absorbing power of Sanders Theatre cushions, which are of hair, covered with canvas and light damask, and of elastic felt cushions, cotton covered with corduroy.

Absorbing Power of Settees, Chairs and Cushions.

Plain ash settees	0·038
Plain ash settees, per single seat	0·0077
Plain ash chairs, "bent wood"	0·0082
Upholstered settees, hair and leather	1·10
Upholstered settees, per single seat	0·28
Upholstered chairs, similar in style	0·30
Hair cushions, per seat	0·21
Elastic felt cushions, per seat	0·20

A case has arisen even in the present paper where it was necessary to know the absorbing power of paintings on canvas, and the question may not infrequently arise as to how much service is secured, or injury incurred, acoustically, by their use in particular rooms. The oil-paintings in the faculty-room, nineteen in number, with a total area 19·9 square metres, gave opportunity for the determination of the desired coefficient; but a question arises in regard to the method of reckoning the area. Thus, different coefficients are obtained according as one measures the canvas only or includes the frames. The latter method, on the whole, seems best, although most of the absorption is probably by the canvas.

The coefficient for house plants, which may be of passing and possibly practical interest, was even more hard to express. A greenhouse, 140 cubic metres in volume and in which plants occupied about one-quarter of the space, showed an absorbing power greater than that due to the walls and floors by four units, or 0·11 per cubic metre. It would be of greater value to determine the absorbing power of such plants as are used, often very extensively, in decorating on festival occasions, but no opportunity has yet presented itself.

Among the cloths used in decorations, cheese cloth and cretonne may be taken as types. The first is an American gauze, 48 grammes to the square metre. The second is an ordinary cotton print cloth, 182 grammes per square metre. Shelia, an extra quality of chenille, is a regular curtain material used only in permanent decorations.

Linoleum and cork tile are commercial products, the first used as floor covering, and the second in walls. Both were tested lying loosely on the floor; their values cemented in place would probably be different.

The carpet rug is a heavy pile carpet, about 0·8 centimetre thick.

In the following table the values are per square metre, except in the case of plants, where the coefficient is per cubic metre.

Miscellaneous.

Oil-paintings, inclusive of frames	0·28
House plants	0·11
Carpet rug	0·20
Oriental rugs, extra heavy	0·29
Cheese cloth	0·019
Cretonne cloth	0·15
Shelia curtains	0·23
Hair felt, 2·5 cm. thick, 8 cm. from wall	0·78
Cork, 2·5 cm. thick, loose on floor	0·16
Linoleum, loose on floor	0·12

THE COMMERCIAL VALUE OF ART.[*]

ART is one of the greatest factors of civilisation, and probably the oldest and most powerful. It is the very first refining instinct that becomes manifest in the savage; it is the great force that carries him upward through the successive stages of enlightenment until he becomes a great nation, and the last to remain, long after a nation or a people has passed from splendour and prosperity back again into the obscurity of antiquity. It is an open book wherein we read men's thoughts and deeds—their rise, prosperity and decline. It is a faithful record of the triumph and failures of humanity, of its joys and sorrows. Rightly understood, it is the very soul of our existence. It glows as a halo about all creation, appeals to and summons our full nature, and inspires us to lofty efforts, if we will but recognise its ringing message—that beauty is truth, and truth is love.

Some of you probably read the account of the manner in which Gibson first succeeded in having his sketches of the American woman received. He was young and modest and, when he had made a couple of sketches, left them anonymously in the editor's office of a newspaper. They were not appreciated, and were, of course, consigned to the waste basket. Again he left new ones, and again they were destroyed. This continued for some time, until it was finally thought they really might have some little merit after all. So they were published, and soon attracted attention. But still the artist remained unknown, although he continued to leave his sketches. Finally he presented himself at the office as the author of those pictures of women, and now he is famous the world over, and his sketches command an immense premium. What is the result? Think of the thousands, yea millions of people who enjoy them, and are better men and women for it; then think of the material influence exerted by reason of their publication.

Firstly, Gibson himself is making a great deal of money by means of which he could, if he would, do much good in the world.

Secondly, the publisher's business thrives on account of their popularity; this means the necessity of increasing his facilities, employing more hands, who welcome the boom with a full heart. It means further that more paper and ink stock is needed on account of increased circulation, and forthwith the mills are taking larger orders, much to the benefit of those depending upon this branch of the trade, and the railroads doing better business due to hauling the extra weight of stock.

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[*] A paper read by Mr. A. O. Elzner at a meeting of the Cincinnati Chapter of Architects.

And yet Gibson is only one of hundreds and hundreds of artists working in this manner, and whose influence extend far into the channels of trade, yielding support to hundreds of thousands that are engaged in some occupation whose very existence is dependent directly or indirectly upon the work from the fountain-head. Such may be common labourers, mechanics at trades, machinists, engineers, draughtsmen, clerks, manufacturers, shopkeepers, dealers, landlords and bankers, brokers, real estate men, railroad magnates and poor architects—when the publishing journal makes enough money out of the clever paper to erect a new building for itself, as was done in the present instance. I refer to *Life*, which recently completed a splendid house of its own, and is probably now selling its paper very largely among all these people, who are enabled to support it by virtue of the reflex action of its own success.

Let us now analyse a case of rather different character. I was invited recently into the rooms of a firm that makes a business of interior decoration—notably for fine dwellings. This firm naturally could not exist at all were it not that the public taste had developed a demand for beauty and refinement in our homes, and in fact to such an extent that experts are required to take complete charge of the whole interior. This is supposed to be the proper thing; but without intending in the least to disparage the skill of the artist, I would say that, on general principles, it is a very dangerous step to take, unless one feels himself utterly devoid of artistic ideas. For a home should be all that this beautiful term implies, and a home, in order that it may be beautiful, should reflect the individuality of the occupants and should above all be expressive of comfort and ease. Now these are peculiar terms and capable of various constructions. Primarily, comfort in a home means the perfect adaption of its parts, its rooms, its furnishings and size, to the habits and customs of the family for which it is built. Yet how seldom we find this to be the case; and it can be truly said that beauty is incomplete where the purpose is not faithfully served. Just as surely as one person differs from another person in character and individuality, so does one family differ from another family, and so should one house differ from another in character and individuality. But if you stop to inquire you will find that many people build houses, not with the expectation of living in them all the remaining days of their lives, or with the idea of establishing a homestead for succeeding generations, but rather with the fear that they may not be able to occupy it very long and may have to sell it off some day, and consequently they build a house which, as the expression goes, would suit some one else that may want to buy it. Thus passeth individuality and true art.

The other requisite of beauty in a home is that it should express ease—that is to say, it should be manifestly suited to its purpose and should evidence freedom from care for the housekeeper It should avoid awkward and useless corners, fussy and finniky detail, cumbersome drapery and other senseless features that serve no better purpose than that of gathering dust and affording lodgings for disease germs. The true artist remembers all this and provides a home that brings rest with good cheer to the weary soul.

So when I stepped into the studio of this firm of decorators, I was pleased to see the tasteful simplicity that gave character to the work, and to find that it was this point that secured them the contract—quite a large one too at that—in direct competition with other firms. Here was another triumph of art. It was the most artistic production that was wanted; price cut no figure.

Now let us for a moment follow the result of the award. The first thing shown me was a magnificent rug, an oriental make of rare colours, and I learned that the manufacturers (an East India concern) had capable representatives who spend three months of every year in travelling about the cities of all countries studying the tastes and demands of the market; then they take this knowledge home to India and produce rugs that bring a large price, and why? Because they are artistic; and as a result foreign commerce is stimulated—transportation companies prosper, but only after the home people have all enjoyed their share of the good fortune in the many branch industries that are dependent upon the success of the manufacturer.

The same point applies naturally to the furniture, wallpaper, goods and everything that was employed in the scheme.

But there will be many to answer that this is not what is commonly meant by the term art. But why not? There is art in everything, and art is the expression of beauty—beauty being perfection. But if such persons are not satisfied with these examples, let us see how the painter and sculptor help in the universal work. We will assume, for the sake of the argument, that most easel paintings are luxuries. But this is a mere relative term, and not very definite.

The greatest of modern painters are commissioned at enormous prices to decorate the interiors of our public buildings. This requires the aid of many assistants and gives employment to mechanics and tradesmen of various classes. Sculptors of renown are employed in connection with our buildings and monuments, and their work also calls for the expenditure of large sums of money that are disseminated far and wide.

I have no intention of burdening you with further detailed analyses of cases too numerous for the occasion. But I do want to emphasise the great fact that art is a living force; that it enters into and penetrates the utmost depths of our daily life, and is in touch with our every thought and deed. It is the secret source from which springs all that is high and noble in the human breast, and bears testimony to man's divinity, for it is founded on the laws of proportion in form and harmony in colour—all revealed to us in the great and marvellous works of nature.

The rude savage decks his person with ornaments and fastens his weapons and implements on lines of beauty. The commonest and most ignorant labourer rejoices in the attractive show-bills and is happy if he can but secure some little coloured picture to tack upon the cold bare walls of his haunt, and so testifies to the universality of the artistic faculty. Every mother will strain a point to make her child look pretty and dress her in dainty clothes. Whatsoever we buy, which in its nature is intended to have some definite colour or form, appeals to our inborn love of the beautiful, and we will choose this article in place of that one, because we think it more artistic. The dry goods merchant, the milliner, the jeweller, the bric-à-brac dealer, the gas fixture man, the one that deals in carpets, hangings, wall-papers, furniture, pottery, earthenware, china and glassware, also the florist, the book dealer, and many others too numerous to mention that supply our personal wants, all appeal to our artistic faculty.

The same holds true in other lines of trade. Manufacturers of machinery, especially engines, as well as of cars, vehicles, tools and implements, and similar products, pride themselves on the beautiful lines upon which the models are built.

Then, too, we find a most direct application of art in its purest form to the modern methods of advertising. Fortunes are spent in producing catalogues which, in many cases, rank high as artistic productions not only of the designer's genius, but also that of the printer and binder. Our magazines, too, are filled with evidences of this branch of art, and we have not far to look and we are shown valuable collections of marvellous poster designs which really call into service the skill of the cleverest artist. Take a peep at our great lithographing establishments, where tons and tons of fine work are turned out to attract the public gaze with elaborate announcements, all worked after smart water-colour sketches. There is no end of industries purely mercantile and manufacturing in character that pay tribute to art.

There is still another department which must not be overlooked. When a stranger comes to town what is it that influences him chiefly? Is he impressed with the people, with our municipal government, or perhaps our police, or our street car system, or our granite and asphalte pavements? Perhaps so; but in all probability the first question that he will hear would be, How do you like our city? He may be kind and say it is beautiful, thinking it is really horrid; or he may be frank and say that St. Louis or some other city is away ahead of us, but that there is no place like New York; or if he has ever been abroad he will say like Paris. There, he will say, is the wonderfu. Champs-Elysées and all the other beautiful avenues radiating from the wonderful Arc de Triomphe; then there is the Place de la Concorde and endless buildings each more beautiful than the other. He will tell you how Baron Hausmann torn down blocks and blocks of old ugly houses to widen the streets, so that the Grand Opera and other palaces could be seen to advantage, and the city beautified, so that all the nations would come to her feet to do her homage. Paris with her architecture that astonishes the world, her parks that are marvels of beauty, her galleries that are perpetual sources of inspiration, and her shops that are the admiration and envy of all; Paris the home and temple of beauty and culture, and Paris with her unbounded wealth, teaches the great lesson of art; teaches that art is sublime, that it lifts up a nation, and that it pays all round, pays handsomely as a business investment. The French, and latterly the Germans too, put an artistic touch to everything, absolutely everything that they produce. Nothing is too mean to be slighted. And if we ourselves would take this lesson home with us and conscientiously strive to cultivate a similar spirit, and couple with it the determination requisite to apply it to our own case, perhaps we too before long might be a Paris, not only so-called, but in fact the real Paris of America.

SOME UNFAMILIAR MASTERPIECES OF ITALIAN ART.

(*Concluded from last week.*)

TO understand the rare and singular qualities of Crivelli's work we must take a hasty glance at the school from which he chiefly derived his peculiar characteristics. He was a Venetian and had probably studied in the Murano school, but he owes far more to the school at Padua. There were during the first half of the fifteenth century two schools which, roughly speaking, influenced the rest of Italy, the Florentine school and the Paduan school. About 1430 the Paduan school took a special turn towards the classic and decorative arts, mainly through the instrumentality of a certain Squarcione. He was not apparently a professional artist himself, but from the little we know of him he seems to have travelled through Sicily, Greece and even to Constantinople, collecting everywhere Greek carvings in marble and stone, beautiful materials and embroideries. These he collected together at Padua, and the artists studied from them; in fact, it might have been called a school of classic and decorative design. Though there was considerable intercourse between the Florentine and Paduan artists, I think the great difference between them at that time lay in the fact that with the Florentines the human interest is the all-absorbing one, while with the Paduans it forms part, and sometimes almost a subordinate part, of a purely decorative scheme.

There is a good illustration of what I mean in a charming triptych by Mantegna, in the Uffizi. The right wing represents the Circumcision; but though the little group of figures in the foreground is painted with Mantegna's habitual skill and distinction, the eye of the spectator is attracted at once by the background. A fine marble column, crowned by an elaborately-carved capital, supports the arches of the roof, while the walls are covered with beautiful marbles and a mass of ornamentation.

The greatest artists which this school produced (leaving out the Ferrarese school, which I shall not touch on to-night) were the Bellini, Mantegna and Crivelli. The Bellini, being the most versatile, lived to practically throw off the influence of their early school, but Mantegna and Crivelli remained true Squarcioneschi to the end of their days. Mantegna learnt the wealth of decorative ornament, the statuesque figures and drapery which seem carved in stone, while Crivelli learnt how to render the rich brocades and gold and silver cloths in which he clothes his saints, the festoons of fruits and flowers (gourds, apples and cucumbers especially) and the elaborate and intricate carvings on the frames of his pictures. Crivelli seems to have worked a great deal at "Anconas," that is to say, altar-pieces divided into several small partitions. We have a very fine one by him in the National Gallery, which was originally painted for the church of the Dominicans at Ascoli. It is divided into thirteen compartments and is in a magnificently-carved frame.

This picture is at Ancona, and is perhaps not improved by being enlarged, as the original is a tiny panel about 8 by 10 inches, and is painted with the minute finish of a miniature. But it is delightfully characteristic both of Crivelli and of his school. The forked pear or maple tree in the background we find in most Paduan pictures of this time and is typical of Venetia, where these trees are trimmed so as to leave a strong fork to support the vines which are trained from tree to tree as we see them to this day.

But besides being a great master of decorative art, Crivelli's pictures reveal a spirit of intense religious feeling and ecstatic piety. What took him first to the Marches we do not know, but he lived and worked for twenty-five years in the quiet little country towns which lie between the Potenza and the Tronto. Perhaps being an artist of a very refined and delicate ideal he preferred to live where he could work at his own conceptions of beauty and saintliness, undisturbed by the ever-advancing tide of Pagan ideas which the Renaissance brought to the front. There were also from time to time what we should call revivalist movements going on through Italy. The Marches seem to have been for centuries a favourite haunt of saintly men, who have since been either canonised or beatified by the Holy See. Amongst others we find the names of St. Niccolo di Bari, St. Niccolo di Tolentino, St. Filippo Neri (the first church built in his honour is at Macerata), and St. Bernardino of Siena. The latter preached constantly in the Marches during this century, and Crivelli, who probably had met him first at Padua, was much influenced by him. There was also the Blessed Ferretti, whose tomb, with the recumbent form in the simple monk's robe, is to be seen in the cathedral at Ancona, while a picture of him, in ecstasy, by Crivelli, is one of the gems of our National Gallery.

We must remember also that not far from Ancona is one of the most sacred pilgrim resorts in Italy, namely, the church of the Santa Casa at Loreto, and from Crivelli's picture of the Annunciation we gather that he had not only been there, but had studied the construction of the building very carefully.

The Santa Casa, as you no doubt remember, is believed to be the house where the Holy Family dwelt at Nazareth, which had been miraculously transported to Loreto. According to the story, it had also been the home of the Virgin Mary and the scene of the Annunciation. The house is built of small stone slabs (very similar to those of the Portiuncula, near Assisi), and there is a grated window through which, the legend says, the Archangel gave his message. Crivelli, in his Annunciations, not only places the Archangel outside the building, giving his message through a grated window, but he also makes the wall of the Virgin's house similar to that of the Santa Casa, while he is careful to introduce some brickwork near by, obviously to emphasise the distinction. You will find this in the big Annunciation in the National Gallery. This one is in the Staedal Institute, at Frankfort, and I have included it, partly because it illustrates the above-mentioned facts very clearly, but also because it is such a very good example of Crivelli's power of expressing intense emotion. The Archangel has every wing-feather starting with excitement as he delivers his message, while Mary bows down in rapt awe and humility before the heavenly visitant.

Of course, like a true Squarcioneschi, he adds unlimited ornamentation to the house which does not exist on the Santa Casa, but in the main features sticks to the facts as he knew them, and I think we can now understand that there was much to attract an artist of an intensely pious character to this part of Italy.

Titian.—However charming and subtle are the qualities we find in Crivelli's work, when we stand in front of a picture by Titian we realise at once that we are in the presence of a far more vigorous genius. I need hardly say anything about Titian. We all know his life and works. This picture being at Ancona, and therefore rather off the main route, is not so familiar. It was painted shortly after his great *Assumption of the Virgin* now in the Academia at Venice, and therefore belongs to one of his best periods. This picture was painted in 1520, and though the colouring is a little blackened by smoke, it is still wonderfully rich and glowing. To the left St. Francis stands gazing heavenwards, while to the right St. Blaise, with a fine upward sweep of the arm, directs the attention of Luigi Gozzi, the donor. On a bank of clouds above are the Madonna and Child; the child scrambling in a delightfully natural manner on his mother's knee, throws a blessing to the donor. The contrast between the celestial and terrestrial groups is well contrived, while the figures in the foreground stand up finely against the sunset sky with a view of the lagoon and Venice in the distance. Titian was one of the first artists to paint successfully atmospheric effects, and the whole of the lower part of the picture is bathed in a warm sunset glow. The Madonna has a particularly sweet face, and resembles a little Titian's Madonna in the Vatican, this picture, however, being far the finest.

This is the Titian at Treviso, and it was painted rather earlier than the one we have just been looking at. It was commissioned by a certain Canonico Malchiostro, who can be seen kneeling in the background, while his coat-of-arms is painted on the wall. The type of the Madonna is very familiar to us in Titian's works.

Before leaving Treviso we will look at a fresco in another church by a certain Jacopo dei Barbari. Jacopo dei Barbari is an interesting artist, who seems to have spent his life travelling from one country to another. His Venetian countrymen called him "dei Barbari," or "of the barbarians," because he went amongst the Germans, and those who lived north of the Alps were looked upon as barbarians by the cultured Italians. At Nuremberg he was called Jacopo "Walch," for the Germans called the Italians "Walchen." But he was as great as an engraver as a painter, and is perhaps best known as the "Master of the Caduceus," for he took Mercury's Caduceus as his sign, and puts it on his engravings. He was born about 1450, and died about 1516, and his art forms the link between Italian and German art. We find him more than once at Nuremberg, but he did not leave Venice finally till after 1500, for there is an immense woodcut of a bird's-eye view of Venice by him of that date. He then seems to have gravitated to the Netherlands, and entered the service of the Duchess Margaret of Parma, Regent of the Netherlands. Dürer admired his work immensely, and speaks in high terms of Jacopo's power of drawing the right proportions of the human figure, and this fine fresco of a herald amply justifies his praise. Later on in Dürer's life, we read in his diary how he visited the Netherlands and saw the treasures belonging to the Duchess Margaret, amongst them one of Jacopo's sketch-books. He had been dead some years, and Dürer asked for the sketch-book, but was told by the Duchess that she had already promised it to her then State painter, Bernhard von Orley. This fine figure is one of a pair which stand on each side of a monumental slab carved by the Lombardi brothers.

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* A paper by Miss Ethel Halsey, read at a meeting of the Society of Arts.

I believe Dr. Wirkoff has started a theory that the sculptors of the slab also painted the heralds. But I know of no other paintings by the Lombardis at all similar to these frescoes, while these figures have much in common with the portraits by Jacopo at Bergamo and Vienna, and all these works show characteristics which are to be found in the engravings by the Master of the Caduceus. I think we can see for ourselves that the artist who painted this was undoubtedly a perfect master of line, for it is by its splendid lines that it appeals to us.

Christ Bearing His Cross, by Giorgione.—In showing this slide I am departing from my rule of only showing works of art in Italy itself. This picture was in a private palace at Vicenza till a year or two ago, and is now in a private collection in America. It was, unfortunately, not visited much when still in Italy, and is therefore not well known to travellers. But it has a particular interest of its own, as illustrating the influence Giorgione had over his contemporaries. Whatever Giorgione painted we find his contemporaries copying him at once. His beautiful *Sleeping Venus*, now at Dresden, started the fashion, so to speak, of sleeping Venuses. His *Concert*, now in the Louvre, gave vogue to a series of pictures which are very typical of the Venetian school of this time. If this picture we are now studying had disappeared, it would have been known as a "lost Giorgione," from the many pictures of this subject still in existence. I may add, for those who care to pursue this subject further, that Signor Orcagna, the librarian at Venice, has made a collection of photographs from these various pictures. He has put them in the row by a photograph of this picture, and it is instructive to see the various attempts by these inferior artists to reproduce the charming and brilliant qualities of the great master's work.

Before passing on to the Lombard school, we will look at a picture by the Brescian artist, Romanino. Though Brescia is now much visited, I do not think this beautiful picture is as well known as it ought to be. We have a fine altar-piece by him in the National Gallery, but the strength and colouring of this is far superior. Romanino was born about 1485, and died 1566. He was admitted to the Painters' Guild at Brescia in 1510. This picture is dated two years later, so it is one of his early works. He was contemporary with Moretto, with whom he has much in common, though their colouring differs to a certain extent. He joined him in a contract to paint one of the chapels in the church of St. John at Brescia. He also worked at Padua, Cremona, Modena and other small towns.

This picture is in the church of St. Francis at Brescia. It is rich and harmonious in colour, and painted with a broad and masterly touch, while his saints are not merely conventional saints, but human beings full of intense human feeling.

In coming to the last school on my list I am giving the works of three artists thoroughly good representatives of the real Lombard school—Zenale, Borgognone and Gaudenzio Ferrari.

Zenale was born in 1436, and died, aged 90, in 1526. He is believed to have been a pupil of Foppa in his early Bergamo period. He seems to have painted generally in association with a certain Buttinone, and they both worked at Milan and in the neighbourhood. We may infer that Zenale was the greater man of the two, for we know that he was held in high esteem by Leonardo, and was also at one time engineer and architect of the Milan Cathedral. In 1492, when Ludovico Sforza married Beatrice d'Este, both Zenale and Buttinone are in the list of artists summoned to Milan to decorate the rooms in the Castello, which were being prepared for the bride, and also to make designs for the pageants and tournaments held in her honour. A modern critic ascribes this panel to him. It is in a private collection at Bergamo.

This is by Ambrosio de Fossano, generally called Borgognone. His principal works are to be found in Milan or the neighbourhood, especially at the Certosa, where he worked from 1488-94. His career can be divided into three periods:—I. Pre-Certosian. II. Certosian. III. Post-Certosian.

He possessed the power of representing calm and devotional feeling of a very high order, and there is a purity and charm in his style which makes his work very attractive, in spite of the rather unpleasant grey flesh tints, which, however, improved in his later work. We have two or three good works by him in our National Gallery. This picture is at Pavia, and is, as you may see, very much injured, but I included it because it is a beautiful work, and typical both of Borgognone and of the spirit of his day. The colouring of the picture is charming, with the group of monks in their creamy habits contrasted against the dark blue robe of Our Lord. I would point out the delicate treatment of the hands, which are quite out of proportion to the figures, but painted with so much refinement. In the background is a view of the Certosa, the façade of which was finished in 1497. As it is still covered with scaffolding this picture was obviously painted before that date. Above the wall to the right we see the roofs of three or four of the cells which, you will remember, open into the big cloister. There are twenty-four of these little houses, each with a tiny garden at the back. You will remember how Fra Angelico painted in each of the cells at San Marco. Borgognone did something similar in painting for each cell a panel representing the Madonna and Child, often with a saint or the portrait of a monk introduced, and always in the background we see a bit of the Certosa and monks walking about. These panels are now unfortunately nearly all lost. There is one in the National Gallery, one (or two?) in the Brera, and I believe there are only some four or five accounted for.

This picture is rather striking as showing the absolute liberty Renaissance artists took with facts. To show the Certosa well he places it on a cliff. As we all remember, it lies in a flat, well-watered plain, and the one drawback is that we cannot get a good clear view of the mass of building.

We will now turn to the great Lombard painter, Gaudenzio Ferrari, with whose works we will end to-night.

Gaudenzio Ferrari was born near Vercelli about 1481 and died about 1548. He was, therefore, contemporary with Titian and Raphael, and belongs to the late Renaissance period.

We do not quite know from whom he got his earliest teaching, but there were at Vercelli at that time three or four artists attracted there by the neighbouring court of Monferrato. Giovanni Francesco Carotto is the best known of them. He had been a pupil of Mantegna, and it is just possible that Gaudenzio acquired from him his first knowledge of Classic architecture such as we find in his frescoes at Varallo. The first definite notice we have of him is when he went to Milan. The artists at Milan were at that time divided into two distinct schools, the old school as represented by Foppa, Civerchio, Borgognone, Zenale and others, which was rapidly giving way to the new school which rose from the influence of Leonardo da Vinci.

We find Gaudenzio Ferrari working under a certain Stefano Scotto, who belonged to the old school. One writer, I believe it is Morelli, thinks that he must have worked under Bramantino, and bases this statement on the forcible and sculpturesque character of Bramantino's work and on a certain head-dress, all of which characteristics are to be found in the early work of Gaudenzio Ferrari. This is quite possible, for he went to Milan to learn what he could of the great masters there. He was also much drawn towards Leonardo da Vinci. As Bramante, Bramantino and Leonardo left Milan after the fall of Ludovico Sforza in 1499, Gaudenzio Ferrari must have gone to Milan some time before.

On studying the early work of Gaudenzio Ferrari, one is brought to the conclusion that it was the ideals of the great Florentine, and not his technique, which attracted the young artist. As we know, Leonardo particularly strove to represent the subtle shades of expression of face and gestures in his figures, and it is for this that Gaudenzio Ferrari is also famous. His genius was far too great and vigorous to allow him to become a mere slavish imitator of Leonardo's types, though some of the heads in the Varallo frescoes must have been done from studies of the same models. He had an immense admiration for Leonardo, and in these early years we find him occasionally proudly inscribing himself as Gaudenzio da Vinci, or Gaudenzio da Vinci da Varallo, Varallo being the town where he had house property, and was his home at that time.

Gaudenzio Ferrari's bold and striking ways of expressing emotion, his extraordinary fertility of invention, prove him to be one of the most original artists who ever lived. His love of difficult and uncommon attitudes often introduces a fantastical element, but his work always shows real elevation of style and feeling. He possesses the dramatic and virile qualities of Tintoretto and Michel Angelo, but in later years his rapidity of execution and exuberant fancy led him astray, his touch coarsens, his colour-scheme becomes crude and fiery, and the movements of his figures too violent and exaggerated.

I should be inclined to divide his artistic career into three periods:—His early period, which includes the frescoes at Varallo, and lasts to about 1520; his second and greatest period, from 1520 till 1536, and includes the frescoes at Vercelli and Saronno; from that date (1536), though he was working ceaselessly at orders which flowed in, his work deteriorates rapidly till his death, about 1548. Curiously enough, these three periods coincide with his three different homes. During his early life his home was at Varallo, during his second period he moved to Vercelli, and finally, when the French invaded Piedmont and Lombardy, in 1536, he moved to Milan. This may account for the little honour he has received, as so much of his decadent work is in Milan, and his finest productions are to be found only in the province.

We will now see some of the frescoes at Varallo belonging to his first great masterpiece, the screen across the church at Santa Maria delle Grazie in that town. Later on we shall see how completely modern he becomes, but in these early frescoes he shows a last lingering feeling for the older and more archaic forms of artistic expression. Here we see it in the peculiarly long and statuesque figure of St. Joseph, but the flowing draperies of the angels already denote a greater freedom of treatment. The face of the Madonna is particularly beautiful. I wish to point out the peculiarly long fingers which we only find in Gaudenzio's early work. Another fact, I think, is very striking, and that is that in these early works he deals with these familiar subjects in so original a manner that we are rarely reminded of any contemporary pictures of similar scenes.

This represents the *Raising of Lazarus*. I think it is one of the finest of the series. Here, again, we notice the extraordinarily long fingers, but in spite of the exaggeration in the drawing, like all really great masters, Gaudenzio conveys an immense amount of expression by the action of the hands. The fine attitude of Christ, and the kneeling forms of Martha and Mary, make a beautiful group. Altogether I look upon this fresco as the most sympathetic representation of this subject in Italian art.

Christ before Caiaphas.—The moment chosen is evidently when "one who stood by smote Jesus with the palm of his hand, and said, 'Answerest thou the High Priest thus?'" The head of the man seizing Christ's arm from behind recalls the head of Judas in Leonardo da Vinci's *Last Supper*. The Roman soldiers in their decorated armour remind us of the school of Mantegna. I dare say you have noticed rather a trick of Gaudenzio's, that he is fond of placing one or two tall figures in the immediate foreground to emphasise the perspective and to give the feeling of space between the spectator and the principal figures.

We see it emphasised almost too much in the following fresco of Christ before Pilate, which is one of the most interesting of the series. Gaudenzio has obviously chosen the moment when Pilate is trying to save Christ, and the crowd are calling for Barabbas. Pilate's face, with its angry puzzled look, as he faces the violent mob, is a masterpiece of expression. In this scene the perspective runs riot, and Barabbas is certainly on too large a scale.

You will notice over the doorway a representation of the Laocoon. It is from this that some writers hold that Gaudenzio must have been to Rome, but I do not think it proves it either way. You no doubt remember that the Laocoon had been found a few years previously (in 1506), and the discovery of such an important piece of sculpture was naturally of great interest to the art world of the day. The Renaissance artists had an intense reverence for Classic art and often reproduced well-known pieces of sculpture in their pictures accurately drawn. I think that if Gaudenzio had seen the Laocoon he would have reproduced it more correctly, and I imagine he simply drew it from a description.

Between these frescoes which represent the best work of his first period and the following pictures we shall find a great difference. Sixteen years have passed and not only has his genius reached its full maturity but his technique and composition have become thoroughly modernised. We know that he occasionally worked at Novari, Vercelli and other places during this period, and I cannot help thinking he must have visited Parma and studied the works of Correggio. This is the only way we can account for the complete change we find in his work. He still keeps his own fine qualities, but the introduction of little cherubs and clouds point to, not only an acquaintance with, but a distinct study of Correggio's methods, while the drapery held back reminds one of Raphael's *Madonna di S. Sisto*, which, as you no doubt remember, was painted for a church at Piacenza, so that on his way to Parma he could have seen it. But, as usual, he adapts to his own art the special qualities of other artists, but never slavishly imitates.

This is the altar-piece in the R. transept of the church of San Cristofero, at Vercelli, which contains some of Gaudenzio's finest works. In this picture we find the scheme of light and shade which we often find in Correggio's work, namely, a dark background and a sort of search-light turned on to the group from the front. The Madonna holds the Child, who smiles at his own counterfeit on St. Christopher's shoulder. There is something very realistic and natural about these little children, who are of a sturdier build than Correggio's cherubs. Some are playing, holding back a curtain, or eagerly studying a scroll, while below two dear little fellows make music at the Madonna's feet. The monk kneeling to the left represents the founder of the monastery, while on either side of the Virgin stand St. John the Baptist and St. Nicholas of Bari. The other figure is probably a portrait of one of the Frati.

The frescoes in this transept were painted in honour of St. Mary Magdalen, and represent scenes from her life. This represents the preaching of the Magdalen at Marseilles. In the background we see her preaching on the steps of a building, and to the left receiving people who are disembarking, apparently, judging from the costume, the same couple who are kneeling in the foreground. The Magdalen, with her little group of workers to the right, is exhorting the kneeling figures of what is apparently a family group. These are said to be members of the Liguari family at Vercelli, and are admirably painted with that fine bold touch which we associate with the art of Velasquez in the past and of Mr. Sargent in the present day. They are well modelled, and the life and animation on the young man's face is well contrasted with the quieter, calmer expression of the older faces.

In the same transept we find Gaudenzio's great *Crucifixion*. The group of the fainting Virgin, the figures of the Magdalen and St. John, the callousness of the Roman soldiers, the fine figure of the repentant thief, all show a wonderful richness of invention, every look and gesture of the many figures helping to heighten the effect of the scene. The soldier to the right wears the huge headdress and feathers that we find in German pictures of this century, and serves to remind us that the battle of Pavia, two or three years previously, had made the Emperor Charles V. master of the north of Italy, and the Milanese territory was overrun by his troops. This was probably painted from some German commander stationed at Vercelli, and his gay plumes, red beard and shining armour make a fine bit of colour. To the left we have the portrait of Padre Angelo Corradi, one of the two brothers at whose expense these frescoes were executed.

The frescoes in the L. transept were painted in honour of the Madonna, with scenes from her life.

In this *Nativity* there is much that is similar to the one at Holford House, which was lent to the exhibition at the Burlington Fine Arts Club two years ago. The centre group is practically the same, but I consider this Madonna far more beautiful. The fine head of the old shepherd and the reverent expression on the young, uncouth face behind him are admirably executed.

The Adoration of the Magi.—This animated and rather complicated group has given another opportunity of introducing fine portraits of nobles accompanied by their retinues, and also for depicting robes of gorgeous colouring such as Gaudenzio revelled in. It is also interesting for showing the customs of the time by the introduction of dwarfs, pages and falconers. One page at the back is holding a monkey.

The Assumption of the Virgin—This picture was commissioned by another of the Corradis in November 1532, and Gaudenzio worked with so much zeal that he finished it early in the spring, and received 80 gold scudi as payment.

This is by far the greatest picture of this subject, for great as is the *Assumption* of Titian, this is as great in composition, and far greater in the intense and subtle qualities of expression. The Madonna floats upwards, drawn by an irresistible force, surrounded by flying angels, and irradiated by the light from above, while below on the earth stand the Apostles, drawn on a slightly larger scale to emphasise the distance from the group above. If we compare this group with that in Titian's work there can be no doubt of the superiority of Gaudenzio's art. The faces are full of awe and wonder, reverence and sorrow, while the play of the hands is most remarkable.

This is the detail of Madonna. It is not easy to find words to describe the wonderful expression on her face, and it is the spiritual atmosphere in this great masterpiece which is the difference between this and Titian's work.

We now come to a few details from the Choir of Angels at Saronno, Gaudenzio Ferrari's last really great work. His fame had by this time spread far, and we hear of artists commissioned to go and copy the frescoes at Vercelli for other churches. In 1534 he was invited to paint the cupola of the church of Santa Maria dei Miracoli at Saronno. On September 28, 1534, Gaudenzio met the commissioners at Milan and agreed to go and paint the cupola eight days after Easter in the next year. He was to receive in payment 200 gold scudi, as well as lodgment and the necessary wine for himself and assistants during the time the work lasted, and he was to be fined 50 scudi if he did not begin the work at the given date. However, he kept to his contract and finished it by the autumn, when he returned to Vercelli.

As we stand under the cupola at Saronno and look up at this busy throng animated with a holy joy, we can but marvel at the astonishing vitality and movement, and it almost seems as though we hear the rustle of this swarm of angels. The intense excitement and tension of feeling shown in every face, the energetic and heart-whole devotion of each single angel to its own particular function in this vast throng, the whole painted with a strength, a simplicity and a directness which combined make of this cupola one of the finest works of art in Italy.

This detail enables us to see more clearly the fine qualities of Gaudenzio's work and the wonderful vitality in each figure. The varied kinds of musical instruments are very curious and most effectively introduced. The delightful curves of the one held by the angel to the right help to emphasise the flow of the drapery. One instrument seems to be a mixture of a flute and a violin. I do not know if such an instrument exists now, but the instrument in the next picture is certainly familiar to us all as the bagpipe. This graceful and dignified figure is the most beautiful in the throng, and with this we will take our leave of Gaudenzio Ferrari.

His pupil, Lanino, said he ranked amongst the seven greatest painters of the world, and whatever we may think of this opinion, Gaudenzio Ferrari certainly deserves a high place among the great masters of Italy, that wonderful country which, after supplying all the museums in the world, still remains herself the richest art treasure-house of all.

A GREEK FOUNTAIN.

ARCHÆOLOGICAL research in Greece has been rewarded by a novel discovery, according to the Athens correspondent of the *Times* :—

The excavations which for some time since have been carried out at Corinth by Mr. R. B. Richardson and the students of the American School of Classical Studies at Athens have furnished this year results of the highest interest. Last week in the western part of the Agora an ancient Greek fountain was laid bare intact, with two bronze lions' heads for spouts. These spouts are at a depth of 25 feet below the present surface of the soil. At the top of a flight of seven steps leading up from this lower level is a façade of metopes and triglyphs, taken, it is conjectured, from temples destroyed by Mummius, and hence not seen by Pausanias. The façade, which still has the original colouring upon it, is about 40 feet in length. Other important objects of art discovered during the present season are an Ariadne head, a relief of dancing Mænads and large statues, probably from the Propylæa, together with massive blocks from both the architrave and cornice, as well as sculptured coffers from the ceiling.

LONDON AND MIDDLESEX ARCHÆOLOGICAL SOCIETY.

A LARGE number of members of the Society visited Perivale, Harrow and Northolt on the 30th ult., and spent an enjoyable time rambling through the well-wooded lands, and exploring the historic buildings of the locality. Assembling at Ealing Broadway station at three o'clock, the members, under the direction of Mr. T. W. Shore, F.G S., the hon. secretary, proceeded in brakes to Perivale to view the church, which is probably the most interesting example of a small English church still remaining near London. Afterwards they visited the historic church and schools at Harrow—over which they were conducted by one of the assistant masters—and Northolt Church. Subsequently a meeting was held under the chairmanship of Mr. E. W. Brabrook, and it was mentioned that the company had found that at Perivale Church the brasses were detached and were lying in the chancel. It was thereupon decided, at the suggestion of Mr. G. Potter, to make representations to the vicar pointing out the desirability of a more careful preservation of those memorials.

EDINBURGH ARCHITECTURAL ASSOCIATION.

THE Edinburgh Architectural Association had their annual excursion on the 2nd inst., visiting Balmerino Abbey, Bambreich Castle and Lindores Abbey, by the permission of the Hon. Lieutenant-Colonel Stuart Grey, the Earl of Zetland and Mr. David Spiers, factor. Mr. Hippolyte J. Blanc, R.S.A., acted as leader and described the ruins, with the assistance of plans showing all the remains able to be deciphered. The Rev. Dr. Campbell joined the party at Balmerino, and Mr. Stuart Anderson and the Provosts of Newburgh and Leslie at Lindores. The day, which was very bright and warm, was concluded by a dinner held in the George Hotel, Newburgh, when a vote of thanks for the permissions to visit, and to Mr. Blanc for acting as leader was moved by the president, Mr. Henry F. Kerr. Apologies for unavoidable absence from Dr. R. Rowand Anderson and Messrs. Ross, Bailie and Aitken, architects, and Mr. Thomas Fairbairn, were intimated by the secretary, Mr. A. Hunter Crawford.

PREHISTORIC TRADING BETWEEN ITALY AND SCANDINAVIA.

AT last week's meeting of the Anthropological Institute Professor Oscar Montelius, of Stockholm, made an important communication "On the Earliest Communications between Italy and Scandinavia." Beginning with the evidence derived from the discovery, in Denmark and Central Europe, of bronze bowls and other objects of Roman date coming from the same workshops in Italy as the similar examples found at Pompeii and elsewhere, he traced the active and copious intercourse thus demonstrated step by step backward in time through the period of early Greek commerce at the beginning of the Iron Age in the Mediterranean into the later and earlier Bronze Age, and illustrated his conclusions by a variety of objects which, though originally of Italian origin and manufacture, are found widely distributed in Central Europe, in Denmark and in Sweden, and could be shown by numerous examples to have been imitated by the bronze workers of these northern areas. These objects, swords, *situlae*, brooches and other articles of personal adornment, represented successive stages of such intercourse extending back to 2000 B.C. or earlier. This continuous early trade between north and south took its rise from the demand in southern lands for the amber which is found on the shores of the Baltic, and was exported first from Denmark, afterwards also from the district of West Prussia further east, and its course lay mainly over the Brenner Pass, from the valley of the Adige, through that of the Inn and the Danube, into that of the Elbe. In conclusion Professor Montelius discussed briefly the reasons which led him to the conclusion that the series of objects found in the north covered approximately the same period of time as those which they so closely resemble in the south. The paper was followed by a discussion.

TESSERÆ.

Old St. Paul's.

THOUGH we picture Old St. Paul's in our mind's eye as destitute of grand western towers, their want did not seem apparent; why so we can scarcely say, when even a little cathedral like Lichfield boasts its three towers with their spires. Everything seemed, however, to culminate in that crowning feature, the noble central tower, rising above its light bold flying buttresses (very prominent in the design), with its long and graceful windows, surmounted by the lofty leaden spire. There is every indication that this was a lantern internally, as was intended originally at Wells Cathedral and in other central towers, and that it was open up to some height. A noteworthy feature, too, in the architecture of Old St. Paul's was the magnificent rose window at the east end of the lady chapel. Except that at Durham to the "nine altars" there is scarcely any other such example in our English cathedrals. There were examples of almost all the styles, commencing with the Early Norman (the Mediæval St. Paul's, unlike Westminster Abbey, retained no Saxon remains), the graceful Early English work is next reached, and at length that of the succeeding period, the Decorated. The Perpendicular style was scarcely represented, except of course in the designs of the tombs, shrines, &c. The Debased Gothic and then the Italian came next, and it was fortunate that the work of the previous period was not quite obliterated at the hands of the so-called improvers. Among the minor characteristic features of the cathedral were the little chantry chapels between the buttresses of the choir, which must have looked picturesque. They had to be carried on arches on account of St. Faith's Church being underneath. Somewhat similar chapels between buttresses exist at St. Albans Abbey and Exeter. The turret-like pinnacles (instead of the usual gable crosses) to the transept and the east end are also somewhat remarkable, though at the north transept of Westminster Abbey and the south transept, York Minster, we see similar specimens. The styles of the various portions of the cathedral may thus broadly be enumerated. The nave was Norman with (probably) an Early English clerestory and flying buttresses; the cloister and chapter-house Late Decorated; the tower, transepts and choir Early English (1222); the presbytery and lady chapel of rather later date (1255). Hollar gives a very spirited engraving of the interior of the grand Norman nave. Altogether it is clear that England must have possessed in the Middle Ages a cathedral worthy of its capital, and grand as is the successor which has risen out of its ashes, we cannot help feeling regret that such a noble building as the Mediæval St. Paul's should have utterly passed away.

John Constable and Suffolk.

The sight of a beautiful Claude—*The Hagar*—which Sir George Beaumont generally carried with him when he travelled, and of some water-colour drawings by Girtin, which Sir George advised Constable to study as examples of truth and breadth, seem to have determined his wavering resolution to become a painter, and the combined influence of Claude and Girtin may, indeed, be traced more or less during the whole of his practice. His father appeared at last to have given a reluctant consent, and the mill was abandoned for the painting-room, or rather for the study of nature in the open air, among the forest glades and by the still streams of Suffolk. Suffolk, certainly, might not appear at first sight to be the place which one would choose for the education of a great painter. Mountains it has none; to the sublimity arising from lake or precipice, or the desolate expanse of moor and fell, it has no pretension; from the spots where Constable chiefly studied, even the prospect of old ocean was shut out; the country presented, as he himself describes it, only gentle declivities, luxuriant meadow flats, sprinkled with flocks and herds, quiet but clear streams, villages, farms, woodlands—"The slow canal, the yellow-blossom'd vale, The willow-tufted bank and gliding sail." What influence scenery of a higher class might have had on Constable's mind it is not easy to decide; as it was, the narrow circuit of a few miles round Bergholt, within which the materials of his pictures are chiefly found, became for him the epitome of English nature; and he associated the very ideal of beauty with those quiet nooks and scenes of tranquillity and amenity where he had first exercised his pencil, and amidst which in after life he loved to linger. And in truth, to a creative mind—for "it is the soul that sees" and renders back its vision—how much of beauty, picturesque variety, nay, under certain aspects and conditions of the atmosphere, how much of grandeur existed within this narrow circle. A friend of ours has maintained an ingenious thesis, that there is no such thing as a bad day in nature; though whether, after the aspect of some modern summers, he retains his opinion, we think may be questioned. Constable certainly held a similar theory with regard to beauty in landscape. "Madam," said he to a lady who had denounced some object as ugly, "there is nothing ugly. I never saw an ugly thing in my life; for let the form of an object be what it may, light, shade and perspective will always make it beautiful." This, indeed, was the talisman with which he worked; light and shade—the magic of chiaroscuro applied to the simple elements of form which the rich pastures and woods of Suffolk afforded, and a power of exhibiting the varied influences and character of the skies, which, if it has been equalled by Turner, Callcott and Fielding, has certainly never been surpassed by any British landscape-painter.

Pliny's Villa, Como.

This house, which was once a magnificent palace, and is now half in ruins, is built upon terraces raised from the bottom of the lake, together with its garden, at the foot of a semicircular precipice, overshadowed by profound forests of chestnut. The scene from the colonnade is the most extraordinary, at once, and the most lovely that eye ever beheld. On one side is the mountain and immediately over you are clusters of cypress-trees of an astonishing height, which seem to pierce the sky. Above, from among the clouds, as it were, descends a waterfall of immense size, broken by the woody rocks into a thousand channels to the lake. On the other side is seen the blue extent of the lake and the mountains, speckled with sails and spires. The apartments of the Pliniana are immensely large, but ill-furnished and antique. The terraces, which overlook the lake, and conduct under the shade of such immense laurel-trees as deserve the epithet of Pythian, are most delightful.

Houses of Fellaheen in Upper Egypt.

In Upper Egypt the walls of the peasants' houses are very frequently constructed in part of jars placed one over the other, and cemented together with mud; in walls of enclosures, or in such as require only a slight roof, the upper part is very generally formed of the same materials; in the parapets also of the flat-roofed houses a double or triple row of red pots, one over the other, usually runs round the terrace to conceal the females of the family when walking upon it. Pots are preferred to brick, because the walls formed of them are lighter, more quickly built and have a neater appearance. They possess likewise, another advantage, which is that they cannot be pierced at night by robbers without occasioning noise by the pots falling down, and thus awakening the inmates of the dwelling, while bricks can be removed silently one by one, as is often done by nightly depredators, who break into the houses in this manner.

Druidic Settlements.

A great cathedral at present implies a neighbouring and usually a considerable city. Stonehenge was the metropolitan church of Druidism; yet there are no traces of a capital about it. Still its environs must at one time have been extremely populous. The Druids and inferior ministers of worship with their several households, of whose dwellings all vestiges have disappeared, must alone have formed a large establishment; and the more permanent memorials of the dead on the adjoining downs prove the population of the neighbourhood, though scattered, to have been considerable. But when it is remembered that so laborious a memorial as the barrow could only have covered the remains of the opulent, and consequently of the few, the numbers of the British Belgæ who were once scattered over these downs must be allowed to be very great. Of these barrows, within a circuit of little more than two miles around Stonehenge, 177 have been counted, and many more might have been added. In fact the whole surface of the ground is studded with them. Still, however, a murmur of expiring superstition is sometimes heard against the impiety of disturbing the ashes of the dead. But surely when the body has long since been resolved into its parent dust; when all memory and tradition of the individual have ceased; when not a survivor exists, we do not say of the family, but of the nation and language to which he belonged; and when, above all, the investigation is sure to bring to light many buried remnants of ancient arts and manners we may be allowed to pronounce the pursuit as commendable as it is interesting.

Lead Statues in Piccadilly.

Piccadilly was formerly the headquarters of the makers of leaden figures. The first yard for this description of statues was founded by John van Nost, one of the numerous train of Dutchmen who followed William III. to England. His establishment soon had imitators and rivals, and in 1740 there were four of these figure-yards in Piccadilly all driving a flourishing trade. The statues were as large as life, and often painted. They consisted of Punch, Harlequin, Columbine and other pantomimical characters; mowers whetting their scythes, haymakers resting on their rakes, gamekeepers in the act of shooting, and Roman soldiers with firelocks; but above all that of a kneeling African with a sundial upon his head found the most extensive sale. Copies from the antique were also there, and had many admirers, but the unsuitableness of the heavy and pliable material was soon discovered, and after a brief existence the figure-yards died a natural death.

GENERAL.

The Exhibition of the Leeds City Art Gallery has not this year been as successful as in former seasons.

An Exhibition of the works of M. Alphonse Legros, the French artist who has lived so long in England, was opened last week at the Musée de Luxembourg by the Minister of Public Instruction and Fine Arts.

The Jury of the section of architecture in connection with the Paris Exhibition have elected the following "bureau":—President, M. Vaudremer; vice-president, M. Cuypers; reporter, M. Pascal; secretary, M. Mayeux.

Slade Scholarships in Fine Art at University College, London, have been awarded to Mr. P. W. Lewis and Mr. A. D. Rothenstein.

The Annual General Meeting of the British Association of Waterworks Engineers will be held at the South Wales Institute of Engineers, Cardiff, on June 19 and three following days.

The Prize founded by the late Rosa Bonheur, and which is to the value of 60*l.*, has been awarded for the first time. The winner is M. Achille Granchi-Taylor, for a picture entitled *The Fisherman's Widow.*

The Second Reading of the Architects' Registration Bill is fixed for Friday next, the 15th inst.

The London County Council are considering the project of a tramway from Hampstead Road to Jack Straw's Castle, on the top of Hampstead Heath, and down East Heath Road to the terminus of the Hampstead trams at South End Green. The cost would amount to 118,000*l.*, exclusive of laying the lines.

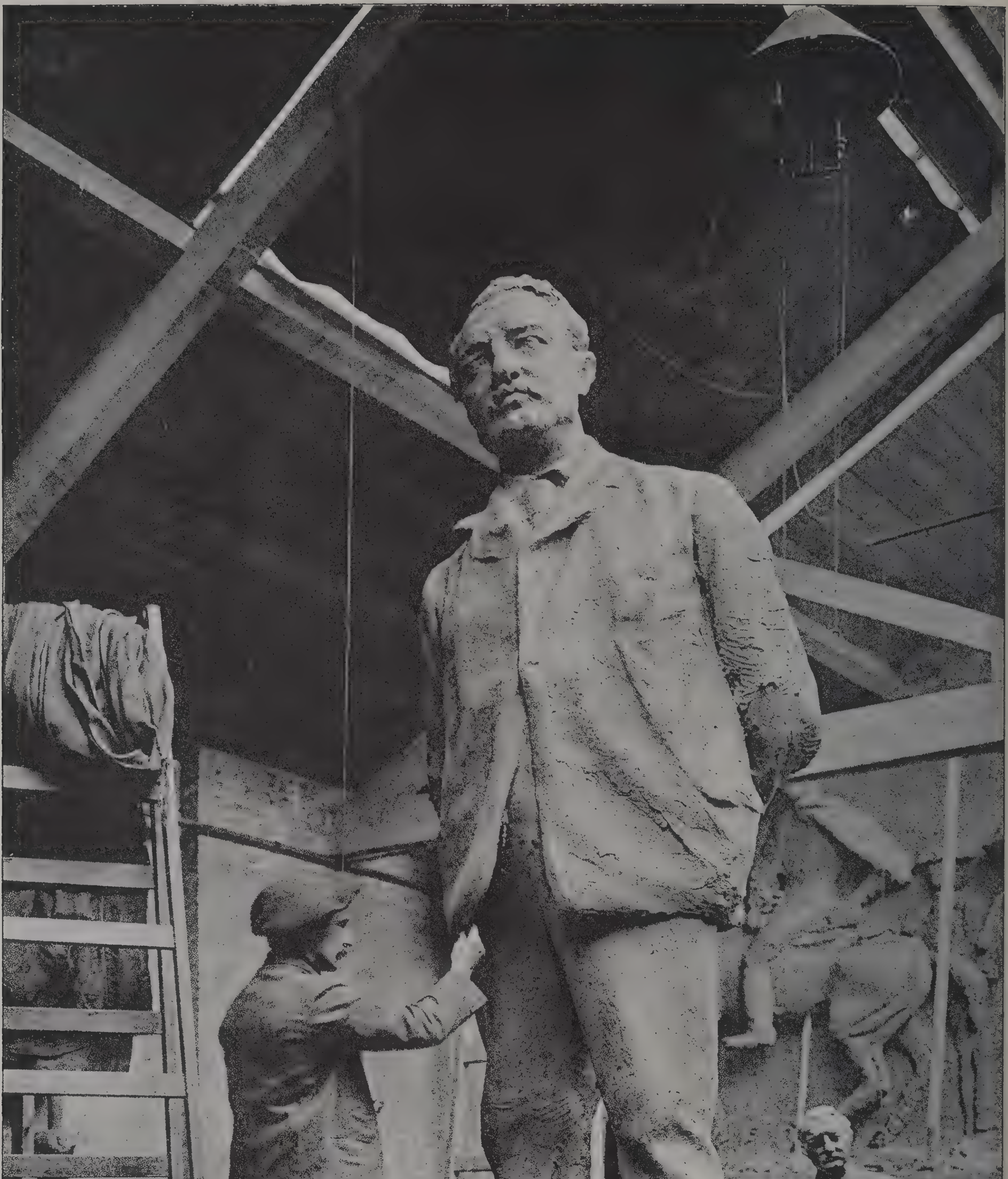
The Following Meetings of the Institute of Sanitary Engineers will be held on Wednesday next, June 13:—General purposes and finance committee at 3.30 P.M., election committee at 5 P.M., half-yearly general meeting at 7 P.M.

The Horsham Urban Council are about to apply for authority to borrow 15,000*l.* for electric supply works.

The Casket containing the address of welcome to be presented at the Guildhall to the Khedive of Egypt is of 18 carat gold and weighs 51 ounces. Its base is surrounded by emblems of ancient Egypt, sphinxes forming the supports for the velvet-cushioned base on which the body of the casket rests. The model of a minaret adorns the lid, and rays of light are represented as proceeding from the dome. In a semi-Oriental frame above the centre of the casket the Khedive's monogram appears in Egyptian characters. The lotus and the rose are entwined as a symbol of the relationship existing between England and Egypt. Illustrations of London's arts, industries and commerce, together with views of some of the principal City institutions, will find a place upon the casket.

The Subject assigned for the Vice-Chancellor's Prize for English verse in Trinity College, Dublin, this term, is "The Remains of Early Christian Architecture in Ireland."

The Annual General Meeting of the Incorporated Gas Institute will be held on June 12 and 13 at the Royal United Service Institution, London, the President, Mr. E. Herbert Stevenson, Esq., in the chair. The following papers will be read and discussed:—"Automatic Stoking and Inclined Retorts," by Mr W. R. Chester, of Nottingham; "Roofs for Retort Houses," by Mr. A. T. Walmisley, of London; "Some Disputed Points amongst Gas and Water Experts," by Mr. J. Wilkinson, of Drighlington; "Naphthalene from the Retort to the Point of Deposition," by Mr. William Young, of Peebles. On Wednesday morning a lecture on the "New Gas" will be delivered by Mr. W. H. Y. Webber.



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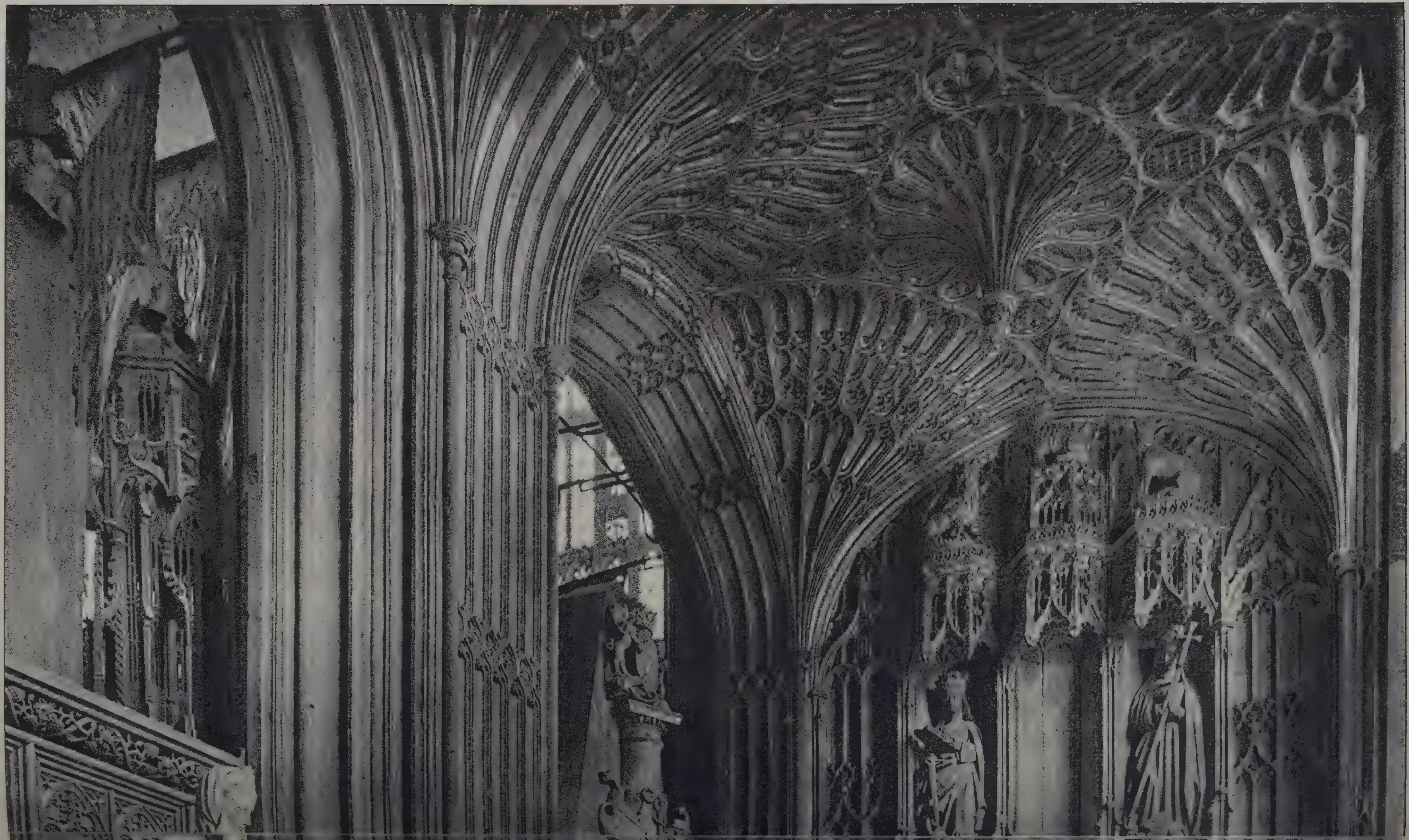
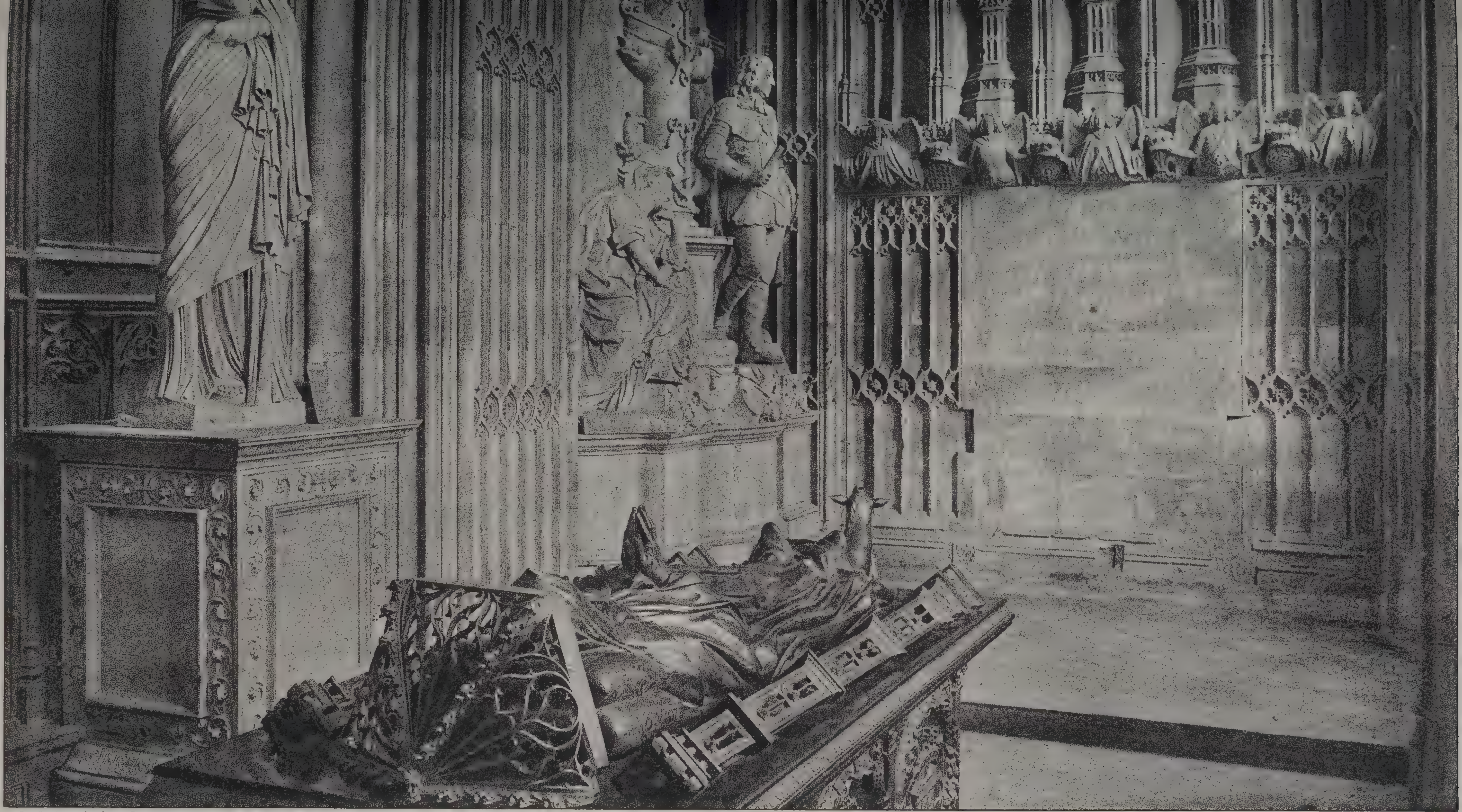
MODEL OF STATUE OF MR. CECIL RHODES.

JOHN TWEED, Sculptor.





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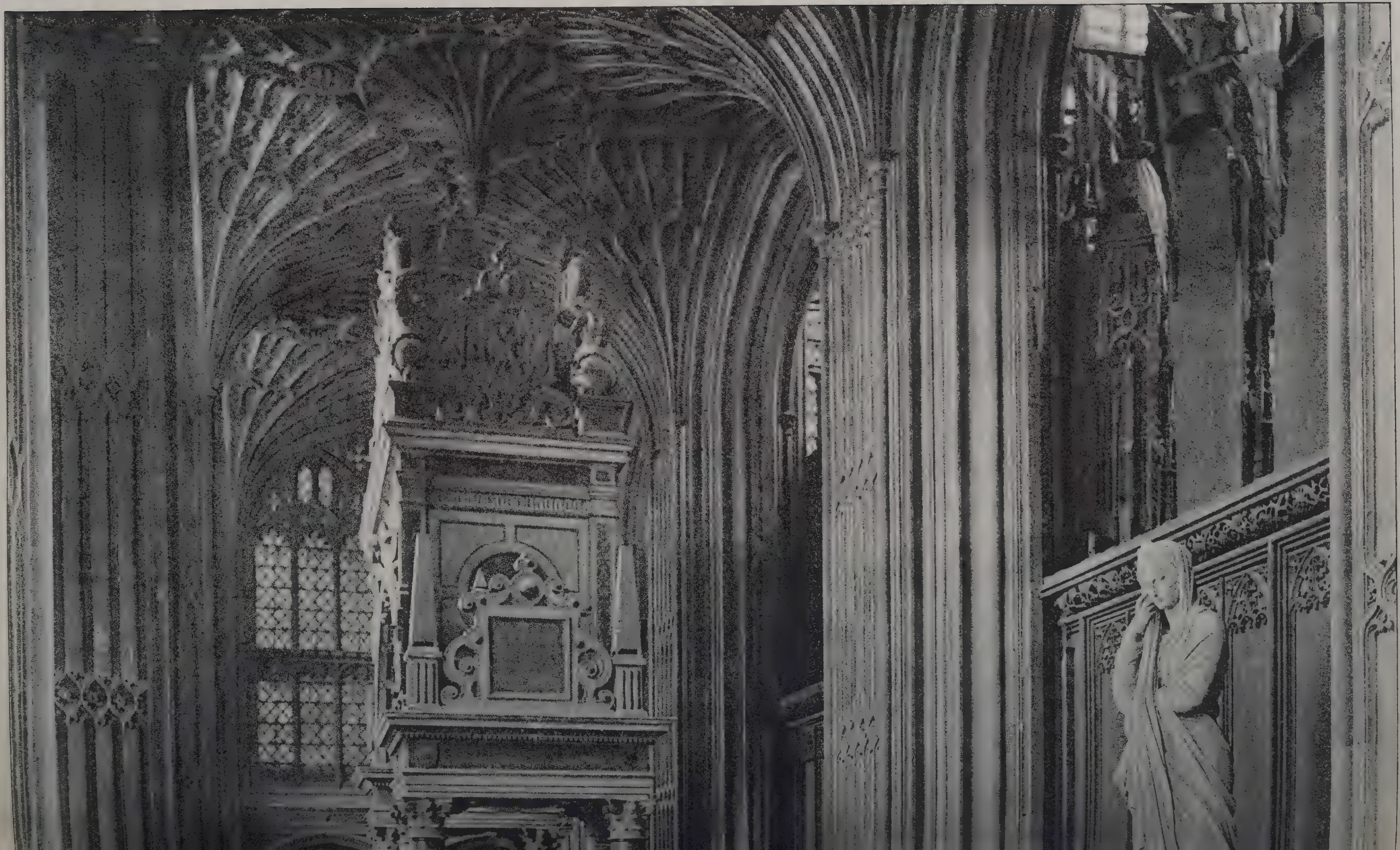
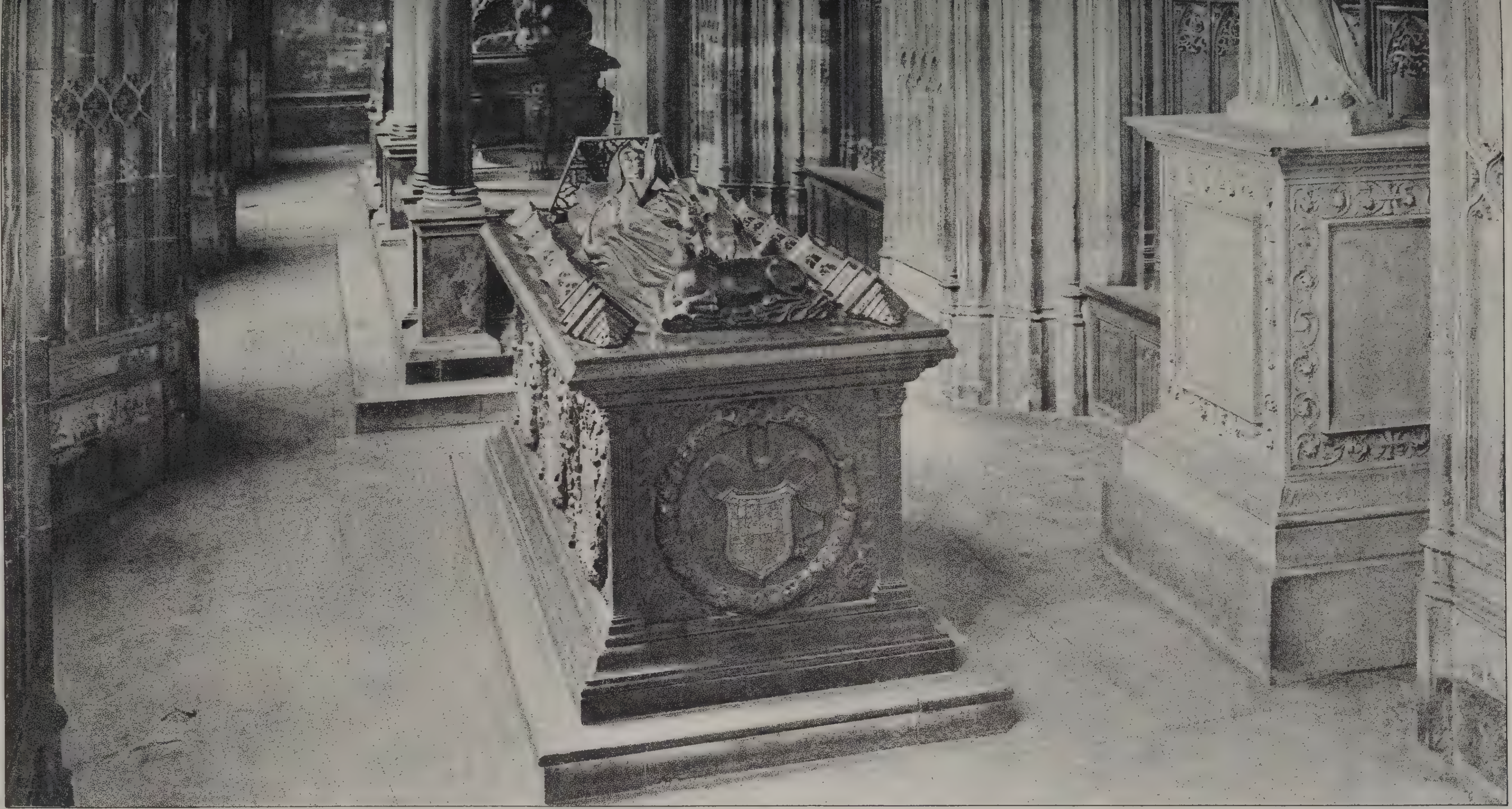
Westminster Abbey, No. 62.
South Aisle, Henry VII. Chapel.





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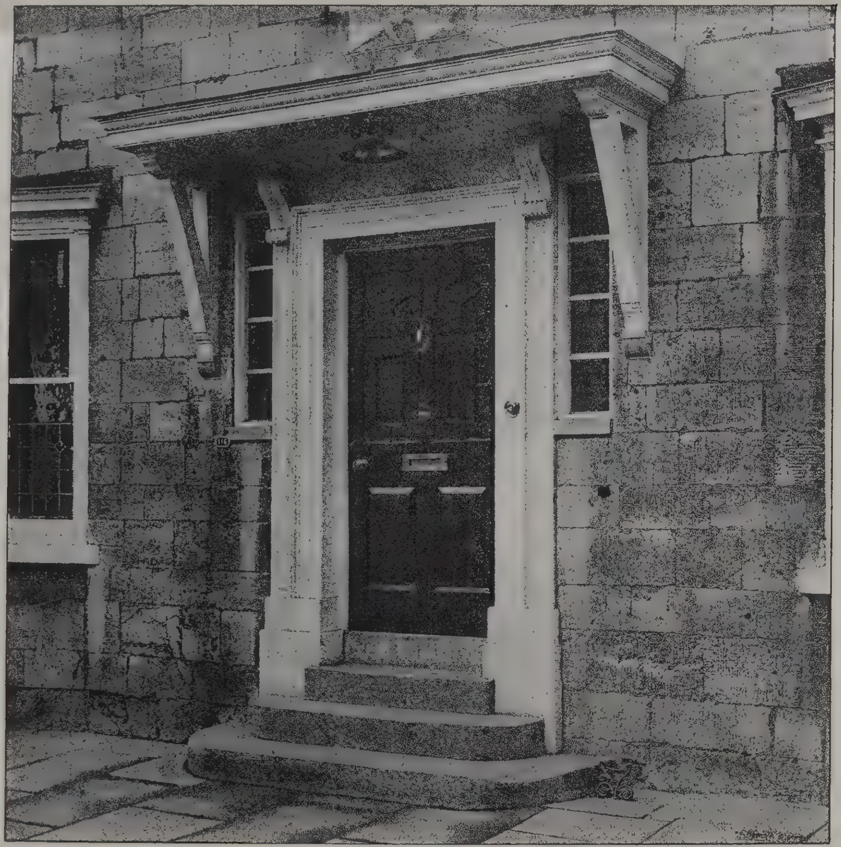
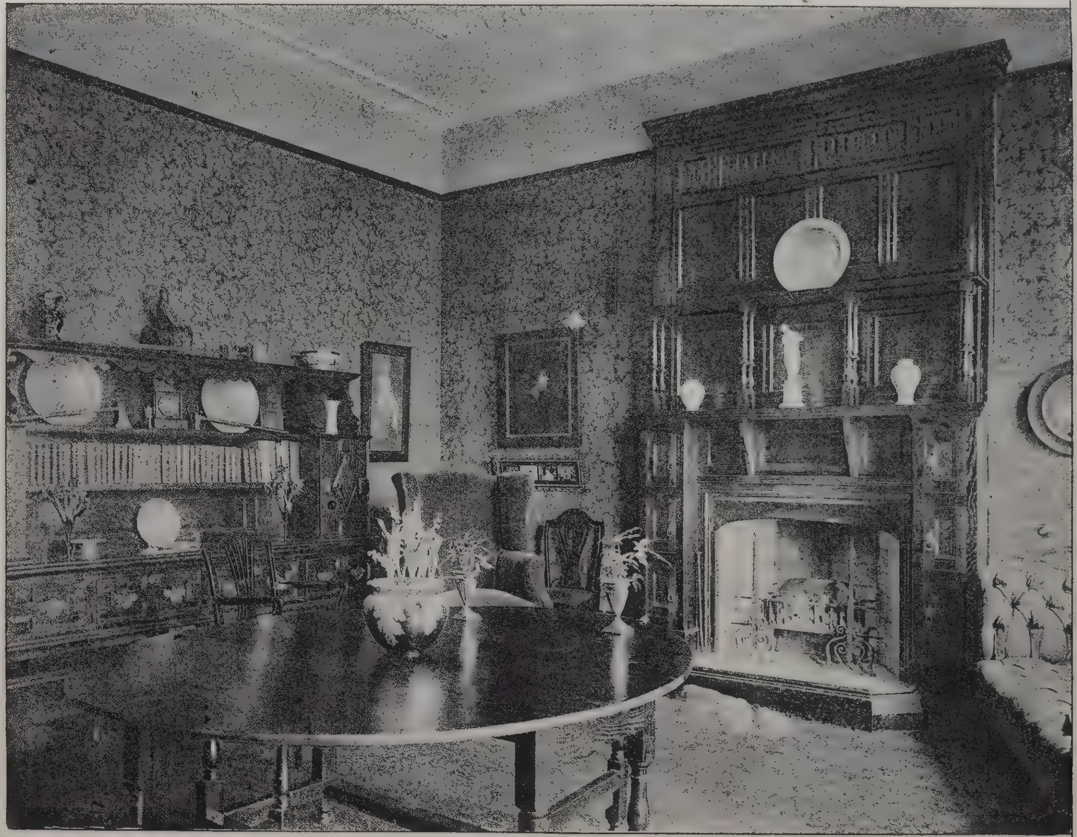
WESTMINSTER ABBEY, No. 63.

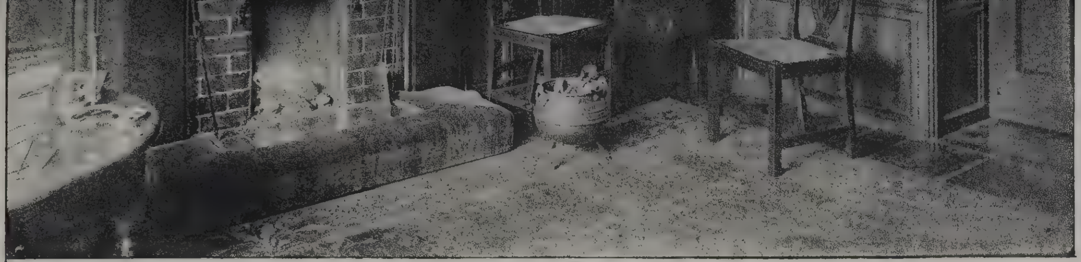
SOUTH AISLE, HENRY VII. CHAPEL, LOOKING WEST.



Doorway.

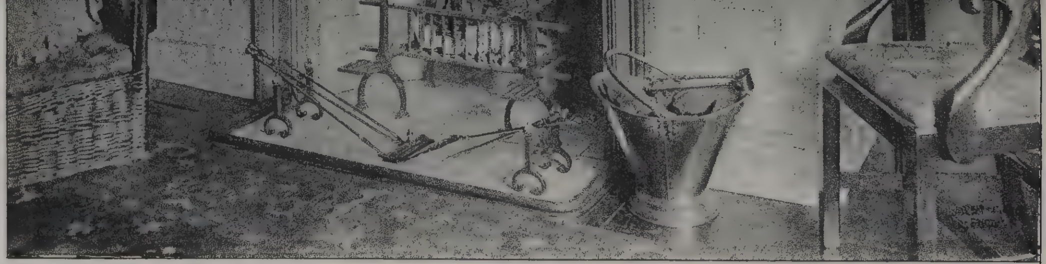


Dining Room.

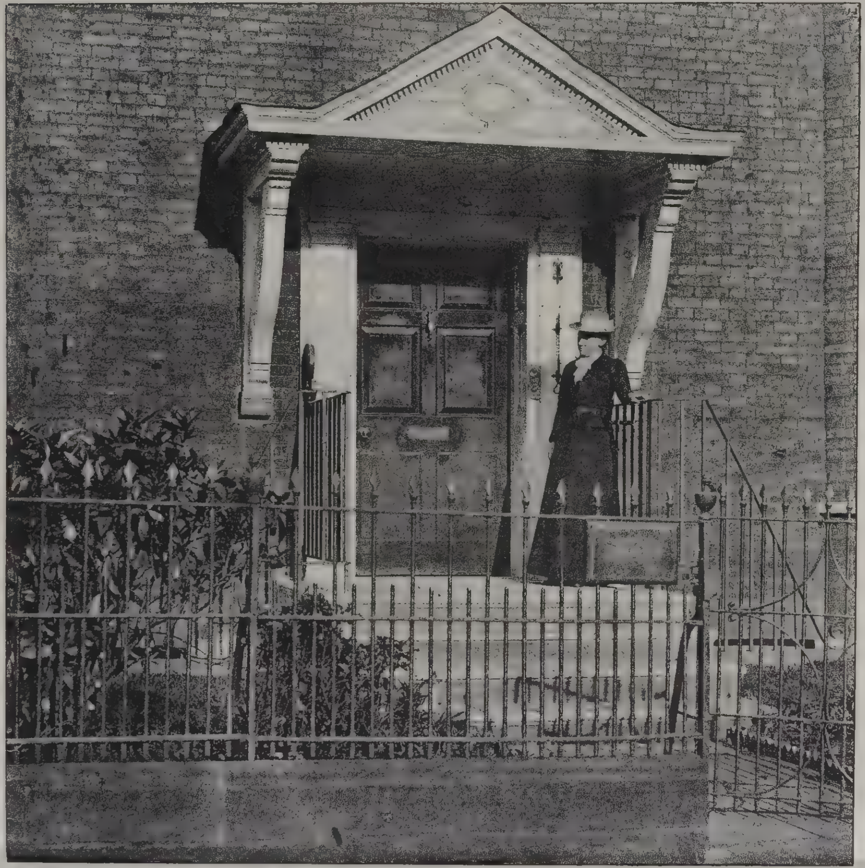


Consulting Room.

JOHN O'GAUNT'S HOUSE.

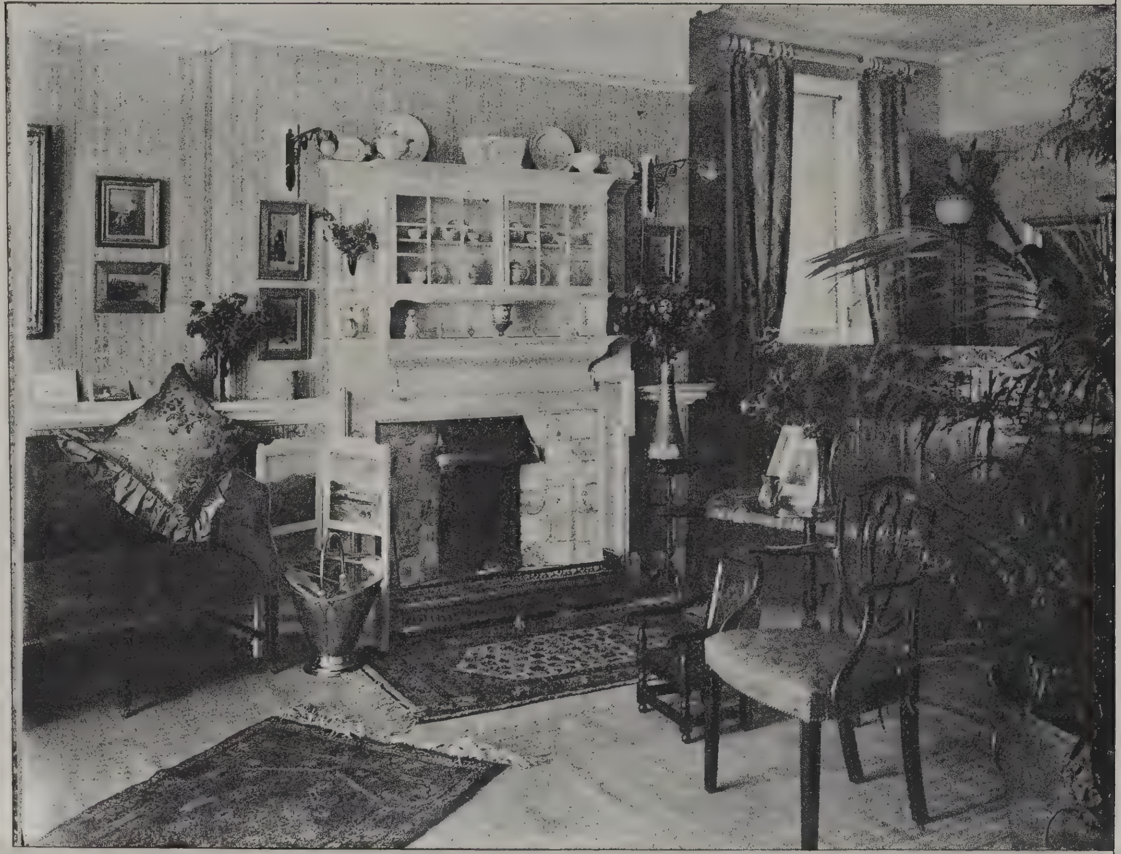


Smoking Room.



Doorway.

No. 8 EASTGATE.



Drawing Room.

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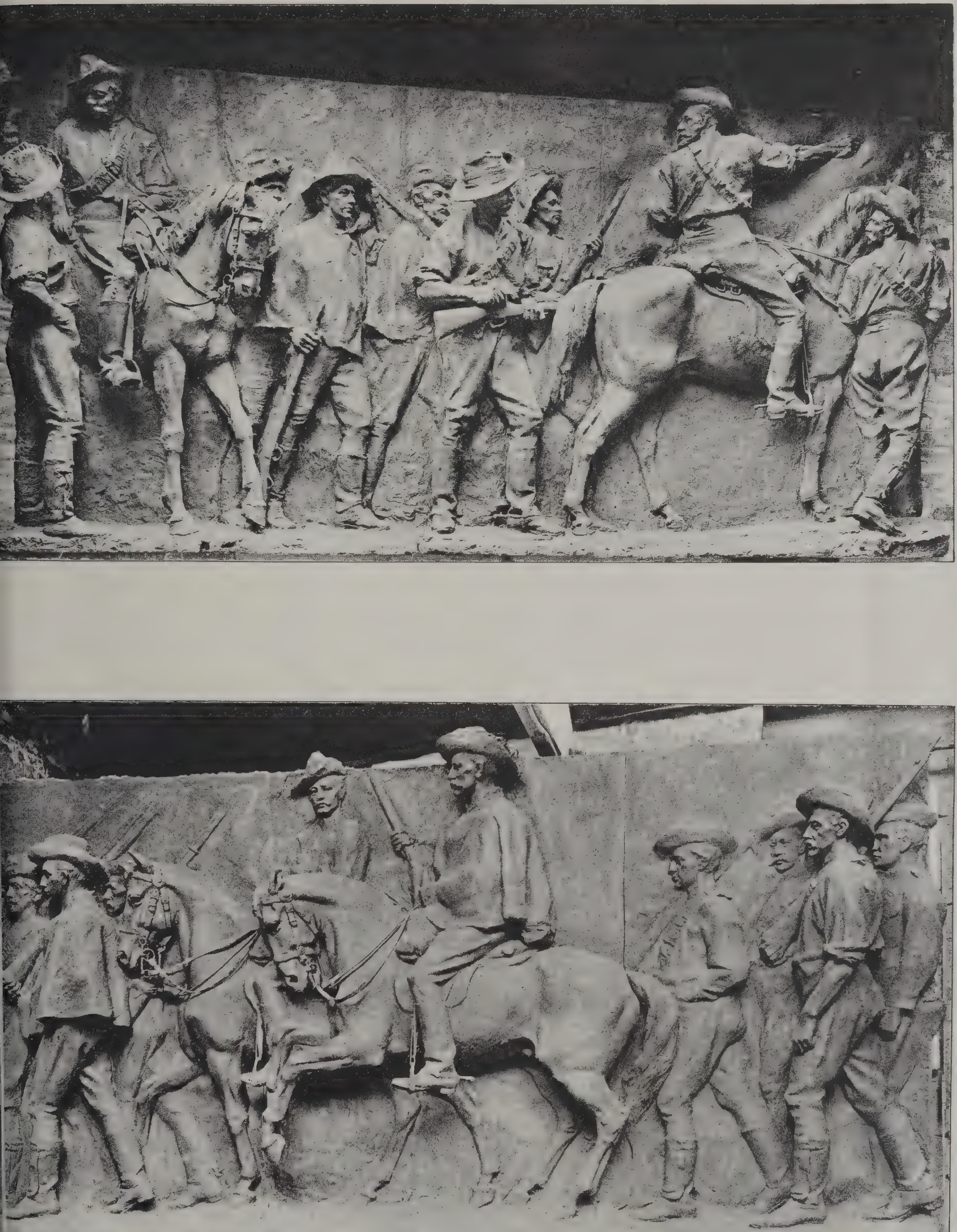
ARCHITECTURAL ADDITIONS, LINCOLN.

H. G. GAMBLE, Architect.



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Panels at Base of Mr. Cecil Rhodes' Statue.

JOHN TWEED, Sculptor.

The Architect.

THE WEEK.

Twenty-one designs were sent in for the Municipal Technical Institute, Public Library, Fire Station, &c., in Eastbourne. Professor T. Roger Smith was appointed as assessor. Sixteen of the designs were quickly found to be unsuitable. Out of the five which remained two were considered to require a larger sum for realisation than the 20,000*l.* proposed by the Corporation. The first premium was awarded to the design marked "F," by Mr. P. A. Robson, Palace Chambers, Westminster; the second for design "A," by Mr. H. A. Cheers, of Twickenham; the third for design "O," by Mr. H. Drury, of Westminster, and Mr. W. C. F. Gillam, of Brighton. The assessor, in his report, says of the first premiated design :—"The buildings are three storeys high, and the architect has taken the trouble to show that the rear of his building will be presentable to persons coming towards the railway along the New Road. He has placed the fire-engine station quite distinct from the other buildings, which is, in my opinion, desirable, though many competitors have thought otherwise. It appears to me that the arrangement of the different departments is in each case good, and such as will be worked conveniently, and that they are well kept distinct. Separate entrances for male and female students are provided, and the lavatories are arranged very cleverly on a mezzanine floor, which has given occasion to a very pretty feature of the elevation. The general treatment of the exterior is satisfactory. Exceedingly little has been done for the sake of ornament, but there is sufficient architectural character, and a sufficiently varied outline to promise a suitable and pleasing exterior. I have carefully examined the design to see if it conforms to your instructions, and I believe it does so fully. But I am afraid that this architect, like most of the competitors, has not given the class and other rooms in the Science School as much height as the memorandum of the Education Department requires. I do not find any room provided for a library in the Art School, as the Department also requires. But there is no provision for this in the instructions. The classrooms do not communicate directly with each other, as the Department suggests, but to remedy that one or two doorways are all that is required. The author states the cubic contents of the Institution at 491,840 feet, and the cost of it at 18,450*l.*, and that of his fire station at 675*l.* This is apparently worked out at 9*d.* per foot, a price which I have known to be sufficient for plain public buildings." It would be an advantage if assessors were more often imitators of Professor Smith's method, and explained clearly and fully the grounds for their preference of a design.

Geodetic observations are in progress by French military engineers, and in them the Eiffel Tower has become a factor. That structure appears to be as vertical as ever, and whatever may be thought of it in an æsthetic sense as a landmark which from many points of view is the most dominant in Paris, the engineering skill displayed in combining so much stability with lightness of material must be acknowledged. But the delicate instruments required for the geodetic observations have revealed that the tower is not so rigid in reality as it is in theory. Although the scantlings of steel may appear to be as light as cobwebs, they are not unaffected by the temperature, and it may be by magnetic and other influences. When seen by the aid of strong telescopes from various standpoints it is found there are variations from verticality, but there are compensating forces, and in the closing observations of each day there is marvellous uniformity. Nothing occurs apparently which can affect the stability of the structure, and if the tower has ever to be removed danger to the public cannot be assigned as the cause.

Although English capitalists supply the money for many foreign enterprises, they are not zealous in insisting on the employment of English materials on the works which are executed. For example, in Genoa large bonded warehouses are in course of construction, most of the money having been subscribed in England. However, among the materials used nothing comes from England. Italy supplies Portland cement from Casale Monferrato. Bricks and tiles come from Alessandria, cast-iron columns from a foundry at Florence, cast-iron water pipes from Piombino, seven electric lifts from Milan, rolled steel (1,000 tons) from Germany, electric light and power and nine electric cranes from Berlin, and the pile drivers were sent from Hamburg. The indifference to English materials and products is not satisfactory. Similar warehouses are being erected with the help of capital furnished by Germans, and we doubt whether in them there is a similar negation of German cement, iron, steel, &c. The first of the English blocks will cost about 225,000*l.* The area covered by the buildings is 2¼ acres. They are erected on 9,585 piles driven 43 feet. The floor space is 347,769 square feet, storage space 3,907,427 cubic feet, while the buildings have a frontage of 600 yards. The contractor and sub-contractor are Italians.

Among the recipients of honorary degrees conferred by the authorities of the University of Cambridge on Tuesday was Dr. William Matthew Flinders Petrie, professor of Egyptology at University College, London. The public orator (Dr. Sandys), in presenting him, said he had taught archæologists the great value of a strictly scientific method. He had carefully surveyed Stonehenge and the other principal monuments of Great Britain, and had written, with no less care, on "Weights and Measures" and on "Inductive Metrology." He had explored the pyramids of Egypt, and by his discovery and excavation of the site of Naucratis, and his researches among the ruins of the Labyrinth in the region of Lake Moeris, had in both cases triumphantly vindicated the veracity of Herodotus. Much more could have been said about the services to archæology which the Professor has rendered. Having devoted his life to antiquity, Dr. Flinders Petrie has been able to give revelations of Egyptian life which in interest surpass what was done by earlier inquirers.

Among the many objects of interest for those architects who are visiting London next week during the Conference may be named Lambeth Palace Library, whose hall, rebuilt by Archbishop Juxon in 1663, ranks as a fine and known example of open-timber roof construction. There are also many interesting details in the stonework inside and out, as well as some old heraldic glass. Besides the choice illuminated MSS., there is a special collection of prints and drawings of Kentish buildings, ecclesiastical and secular, some of which will be on view during the week. The long and eventful annals of the Palace make it one of London's most historic shrines, and link it with a memorable past and present. The library is open daily (Saturday excepted) from 10 a.m. to 4 p.m., and Mr. S. W. Kershaw, M.A., will be glad to see any of the Conference visitors who can spare time from their other numerous engagements.

The French Salon of 1900 having closed, the discussions are renewed about the wisdom of opening such an exhibition. The advocates and opponents both declare the result has confirmed their views. It was not difficult to foresee that fewer visitors were likely to pass through the turnstiles this year than formerly, when the Salon was the greatest exhibition in Paris. With the International Exhibition as a rival, who could have expected to see more than from five to six hundred visitors on ordinary week days and from twelve to fifteen hundred on Sundays? A loss was inevitable, and there is no denying the fact it is as large as had been anticipated. But the committee of the Salon realised that an exhibition is not to be judged merely by the number of francs received for entrance. They knew that hundreds of young artists depended for a large part of their income on the sale of their works in the Salon exhibitions. It is satisfactory to know that this year as many pictures were sold as in past years, and that fact is the principal vindication of the committee's policy, and should be enough to compel all cavillers to be silent.

WESTMINSTER ABBEY.—HENRY VII. CHAPEL.*

When the chapel of Henry VII. was undertaken at Westminster it was intended to serve as the utmost glory of the Abbey. The pure style of Henry III. was out of fashion, and the Gothic which was then in vogue was especially suited for a mausoleum of a king who had many reasons to consider he was entitled to unending admiration in England. Henry VII. was a master of kingcraft as it was known in that age, and Bacon classes him with Louis XI. of France and Ferdinand of Spain as the "tres magi of kings of those ages." He was therefore able to realise the impressiveness of architecture upon people. The recommendations given in his will are remarkable for the detail of the instructions concerning the building of the tomb, and also for the services which were to be held in the chapel, and which were to be an animated memorial of Henry VII., while operating at the same in insuring his salvation. For instance, it was decreed that "in the sides and both ends of our said towmbe we wol tabernacles be graven, and the same to be filled with ymagies, specially of our said avouries [patron saints] of coper and gilte." It was also provided by the king that "the walles, doores, windows, archies, and vaults and ymagies, of the same, of our said chapell, within and without, be painted, garnisshed and adorned with our armes, bagies, cognoisaunts and other convenient painting, in so goodly and riche manner as suche a werk requireth, and as to a king's werk apperteigneth." The windows were likewise to be glazed with "ymagies, armes, bagies and cognoisaunts."

In justice to Henry VII., it should be allowed that the project of the chapel was not originally arranged for his own glory. It was to be the chapel of the unfortunate king Henry VI. That "royal saint" selected his burial-place in the Abbey on a spot which was at the time occupied by the Reliquary and close to the Shrine of the Confessor. According to the belief of a later time, Henry VI. was murdered in the Tower by the Duke of Gloucester, but the deed cannot be authenticated. The king's body was exposed to public view in St. Paul's Cathedral as if he suffered no violent death, and was afterwards removed to Chertsey Abbey for interment. It was the interruption of the funeral procession by Gloucester which gave rise to the great scene in "Richard III." which Mr. Abbey lately painted. In the play the Duke orders the corpse to be taken to Whitefriars, but afterwards it was transferred to Chertsey. Richard III. again interfered, and by his command it was transferred to St. George's Chapel, Windsor. The belief arose, among the Lancastrian party, that Henry was a saint, and the usual test of miracles at his tomb was often recorded. The subject of his canonisation was therefore brought, by Henry VII. under the notice of Pope Julius II., and a commission was appointed to inquire into the subject. So far as is known, no conclusion of the affair was arrived at. "The general opinion was," says Bacon, "that Pope Julius was too dear, and that the king would not come to his rates. But it is more probable that that Pope, who was extremely jealous of the dignity of the see of Rome and of the acts thereof, knowing that King Henry VI. was reputed in the world abroad but for a simple man, was afraid it would but diminish the estimation of that kind of honour if there were not a distance kept between innocents and saints."

The probability of canonisation was, however, sufficiently strong in those days to make it incumbent to erect a splendid building to enshrine the remains of the new addition to the ranks of the Blessed. Henry VII. therefore resolved to reconstruct the chapel at Windsor and the works were commenced. But ecclesiastical establishments had their privileges which were not readily abandoned at a king's order. The Abbeys of Chertsey and Westminster made claims for the possession of the body. The Westminster monks were able to prove that the royal saint had in the presence of witnesses marked out the site for his grave. Those of Chertsey could maintain that the king was actually interred in their building, and the violation of the grave by Richard III. was not to be considered as conferring a right on others. Windsor relied on the fact of possession, which has always been important in the eyes of English lawyers, and a lawsuit was commenced by its authorities in vindication of their rights. The Privy Council decided in favour of Westminster. The Pope granted the necessary license for the removal of the body. The Chapter of Westminster made all suitable preparations for the reception of the remains, and agreed to the king's demand for the large sum of 500*l.* towards the royal expenditure in connection with the affair. But it is doubtful whether after all the excitement the body was ever removed from Windsor. Henry VII., however, was in duty bound to go on with the chapel which had been projected in order to shelter "the body and relics of his uncle of blissful memory, King Henry VI."

Here we must note a remarkable circumstance. Henry VII. was a man who in a subsequent age and under other circumstances would be condemned for his Mariolatry. In his will he stated that in all his necessities he made the Blessed Virgin his continual refuge. But however great was his devotion, he made no scruple about removing the ancient lady chapel which stood on the site, and which was an object of affection to many. The chapel of St. Erasmus was also removed. Adjoining properties were purchased of the value of 30,000*l.* in our money. Henry had ruled England for eighteen years when, in 1503, it was decided to lay the foundation-stone. Holinshed's record of the event is too interesting to be omitted:—

> In this eighteenth year, the twentie-fourth daie of Januarie, a quarter of an houre afore three of the clocke, at after noone of the same daie, the first stone of our ladie chapell, within the Monasterie of Westminster, was laid, by the hands of John Islip, abbot of the same Monasterie; Sir Reginald Braie, Knight of the Garter; Doctor Barnes, Maister of the Rolles; Doctor Wall, Chapeleine to the King's Majestie; Maister Hugh Oldham, Chapeleine to the Countesse of Darbie and Richmond, the King's mother; Sir Edmund Stanhope, Knight; and diuerse others. Upon the same stone was this scripture ingraven: "Illustrissimus Henricus Septimus Rex Angliæ et Franciæ et Dominus Hiberniæ, posuit hanc petram, in honore beatæ Virginis Mariæ, 24 die Januarij, anno Domini 1502; et anno dicti regis Henrici septimi decimo octavo." The charges whereof amounted (as some report, upon credible information as they say) to fourteene thousand pounds.

Who was the architect of the building? There is no certainty on the subject. The carrying out of a royal work was then entrusted to some sort of organisation or department, and the head or controller of it was considered to be the architect. Bishop Fox, Sir Richard Bray, Bishop Alcock have been credited with the work. Now Sir Richard Bray is considered to have been the most likely. He is supposed to have found the crown which Richard III. wore on the field of Bosworth, although in Shakespeare's play the Earl of Derby claims credit for having plucked off the symbol of royalty "from the dead temples of this bloody wretch." Six years after the laying of the foundation-stone Henry died at Sheen Palace. The mausoleum was not then completed, and the king was buried in a vault where the coffin of his wife Elizabeth of York had been placed. The vault was afterwards used to contain the coffin of James I., and when opened for that purpose in 1625 the silk pall which covered the coffin of Henry VII. and every object of value placed near it were stolen. As the vault is not visible, and as its existence demonstrates that the great monument by Torrigiano is only an ornamental appendage, and never sheltered the remains of Henry VII., we give Dean Stanley's description of the structure:—

> The vault is partly under the floor of the west end of the enclosure of the tomb and partly under the floor itself; so that the western end of the arch is nearly coincident with the inside of the Purbeck marble curb above, and the eastern end about 2½ feet west of the eastern extremity of the tomb above. Thus the vault is not quite conformable with the tomb, but is so placed that the western face of it abuts against the thick bonding wall which crosses the chancel. This want of conformity with the direction of the tomb doubtless arose from the circumstance that the vault was excavated before the tomb above was designed. The vault is beautifully formed of large blocks of firestone. It is 8 feet 10 inches long, 5 feet wide, and from floor to apex 4½ feet high. The arch is of a fine four-centred Tudor form, and the floor, which is stone, is about 5½ feet below the floor of the tomb. The masonry is very neatly wrought and truly placed. The stone exhibited hardly the least sign of decay, and from its absorptive and porous nature there was no appearance of dewdrops on the ceiling.

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* See Illustrations.

To this cause may be attributed the high preservation of the lead of the coffins of these three sovereigns; whereas the lead of Edward VI.'s coffin (which was under a marble ceiling always dropping water by condensation on its surface) had been fearfully contorted and almost riven asunder by perpetual corrosion. This was the more remarkable from the extreme damp of the vaults as well as the atmosphere within, which struck a deadly chill when the vault was first opened; whereas on the same firestone in the cloisters the outer atmosphere when moist tells with such force that the floor beneath is quite spotted with particles of stone detached thereby from the groining above.

From the circumstance that the coffins of Henry and his queen were deposited in a subterranean chamber, there are grounds for doubting whether the king contemplated such a tomb as Pietro Torrigiano wrought. Henry, as we have said, desired to have a structure that would serve to contain images of his patron saints and where devotions could be performed. The authorities of Westminster covenanted with him that three chantry monks should, while the world endured, say Masses daily for the repose of Henry's soul. The indenture is one of the most interesting treasures in the Abbey, and is bound in velvet and adorned with enamels. The "screen or closure of metall in manner of a chapell" would have served for the stipulated devotions. It is, in fact, a miniature Gothic structure. Malcolm says it is suggestive of a magnificent palace, but the double row of windows terminated by a projecting arched entrance, and the rest have more of an ecclesiastical appearance. It is a wonderful piece of metal-work, and suggests the desire to have monuments and other subsidiary objects in keeping with the building containing them. We may assume the screen or enclosure to have been English work or Anglo-Flemish.

But a great change in the manner of considering art was to arise after the death of Henry VII. That king, as Walpole says, "being neither ostentatious nor liberal, genius had no favour from him. He reigned as an attorney would have reigned, and would have preferred a conveyancer to Praxiteles." His successor, Henry VIII., may not have had more artistic taste than his father, but, as Walpole remarks, "When a king is magnificent, whether he has taste or not, the influence is so extensive and the example so catching that even merit has a chance of getting bread." Italy was, when Henry VIII. came to the throne, the source of art for all Europe. There was at the time intercourse between it and England through the agency of Florentine merchants who were the most successful agents in the new system of finance, which depended mainly upon loans. It is said that Torrigiano, who was not afraid to enter into competition with Michel Angelo as a sculptor or a boxer, was induced by the merchants to come to England and to enter the king's service. In a case heard before the Council at Greenwich in 1518, in which Pietro de Bardi and Bernardo Calvalcanti were the litigants, "Master Peter Torressano, a Florentine sculptor," was a witness." Henry appreciated him, and, according to Vasari, if he had not been a proud, inconsiderate and ungovernable man, he might have lived in great felicity and made a good end. The sculptor must have found it difficult to obtain assistants in England who were able to execute Renaissance details. Accordingly he was sent to Florence to engage young artists. He offered to make Benvenuto Cellini's fortune if he would accompany him to England. Cellini was a rowdy, and the elder artist tickled his vanity by suggesting the amusement which awaited him in fighting with the bears of Englishmen. Every day he boasted of his doughty deeds in the precincts of the Abbey, and what he said appeared credible, for according to Cellini the sculptor was of a noble presence, bold, and with the air rather of a great soldier than of a statuary. His dramatic gestures, sonorous voice and the action of his brow excited amazement, but Cellini said he could not serve under the man who had broken the nose of Michel Angelo. Among the craftsmen who worked under Torrigiano on the monument of Henry VII. were Laurence Ymber, who carved in wood the models of the patron saints; Humphrey Walker, founder; Nicholas Ewer, coppersmith and gilder; John Bell and John Maynard, painters; Robert Vertue, Robert Jenings and John Lebons, master masons. Torrigiano is said to have received 1,000*l.* for his work, which would probably be equal to 10,000*l.* of our money. If he had remained in England he must have become a prosperous gentleman, but after completing the tomb his truant disposition led him to Spain, and three years later he died of self-imposed starvation in a dungeon of the Inquisition, where he was immured for destroying a statue of his own for which miserable payment had been offered to him.

No more than sixteen years elapsed from the laying of the foundation-stone of the chapel of Henry VII. to the completion of the monument. Yet if judged by style the two works seem to be centuries apart. Nor is the difference confined to figures, mouldings and other ornamental forms. The joyous amorini that are introduced in the reliefs of Torrigiano's work belong to a different world from that inhabited by the "avouries" whom the king implored in his will "so to aid, succour and defend him, that the ancient and ghostly enemy, nor none other evil or damnable spirit, have no power to invade him, nor with their wickedness to annoy him, but with holy prayers to be intercessors for him to his Maker and Redeemer."

Little need be said about the architecture of a building which is universally known. It marks the close of an era. As time went on Gothic architects grew more and more ambitious to excite amazement, as if it were the true test of beauty. It must have been a puzzle to Mediæval people to understand how so much stability was compatible with so much apparent slimness in construction. At last the stonecutter's ability triumphed over the designer. Forms which used to be simple became contorted, as if the men wished to suggest that the hard stones were plastic in their hands. Vaulting, which used to be elevated as if aspiring, was transformed in character. The curves of groins were flattened, and eventually the feat was accomplished of constructing a roof containing a large number of parts which to all appearance and by the law of gravitation were bound to fall on the heads of the congregation. In the Westminster Chapel the pendentives within attract most attention from visitors, and next, perhaps, the elaborate but mechanical working of the exterior, as exemplified at the eastern extremity. Both are a tribute to the craftsmanship of the beginning of the sixteenth century, but are not adapted for imitation in our time. With all its shortcomings the chapel is, however, to use Bacon's words, one of the "stateliest and daintiest of monuments," and Henry VII. can therefore rank with Mausolus.

THE CONGRESS LIBRARY, WASHINGTON.

Americans who are ambitious "to lick creation" can rejoice in the possession of the only Bill, so far as we know, in existence seeking powers for the payment of fees to two architects. Parliamentary proceedings in the States as elsewhere are often a record of strange measures, but architects generally appear to be outside their purview. In the United States not only has a Bill been introduced relating to the fees on one building, but it was read a month ago, and by this time may have become law. The legislative measure has interest not only for the firm who, we hope, will receive justice through its operation, but for architects in all countries. "Sufferance is the badge of all our tribe," says Shylock, and wherever there is an architect he must sympathise with any member of the profession who even temporarily is a victim of injustice. That Messrs. Smithmeyer & Pelz are in so unenviable a position cannot be doubted by any one who has read the circumstances of their case.

They are the designers of the new Library of Congress in Washington, a building which is admittedly "admired by all who look upon it." It surpasses the libraries in the Houses of Parliament at Westminster, and we imagine it is without a rival in any country where a Parliament meets. That, however, is not surprising. It is no improvised attempt, but a deliberate creation, or rather development, which represents years of toil and many experiments. The erection of the building was proposed as far back as 1873. Various measures were passed by Congress conferring powers on the committees entrusted with the work. However, the principle of competition was adopted to secure a masterpiece of design, and Messrs. Smithmeyer & Pelz triumphed over twenty-seven rivals. As time went on the ideas of the requirements became more grandiose. During thirteen years the successful architects were called on to prepare no less than ten sets of plans all differing in character for the new building. It is not difficult to comprehend how easily new notions would be proposed by a body of ingenious legislators having two enthusiastic architects at their command. The demands were so onerous that Messrs. SMITHMEYER & PELZ were forced to abandon all their other practice and to devote themselves exclusively to the project or rather projects of the new Library. They were ordered to examine all the principal libraries of the United States, and afterwards those in Liverpool, London, Paris, Berlin, Vienna, Dresden, Leipsic and Hanover. A term at length arrived to what could be introduced by eclecticism in the original design, and in 1886 an Act was passed by which the plans of Messrs. SMITHMEYER & PELZ were accepted and a new committee was constituted to arrange for carrying them out. After thirteen years the architects had attained their reward. Unfortunately it was only in a Parliamentary or Congressional sense, for not one dollar was paid to them.

A new condition of affairs then commenced, which represents a still longer period of anxiety and of that hope deferred which makes the heart sick. We have had from time to time to censure the practice of the American Government in dealing with architects. We may say we were originally inspired to do so by the appearance of an old gentleman of eighty years of age, who came to us from the States in order to invoke our aid for his son or grandson, an architect who had been unfairly treated. Since those days many changes have been made, but with all the improvements it cannot be said that at the present time the position of non-official architects is entirely satisfactory whenever they have to undertake Government buildings. About 1886 it was usual for plans of such buildings to be prepared in Government offices, and to entrust the superintendence of the construction to private architects—an arrangement by which defective designs were remedied. Therefore it was not extraordinary when the two designers of the Congress Library were asked to take charge of some of the preliminary operations in connection with the works. Mr. SMITHMEYER was to be paid at the rate of 1,000*l.* a year and Mr. PELZ at the rate of 600*l.* The salaries were manifestly inadequate for architects in their position, but it is easy to realise the desire of the partners to have their design carried into execution in a satisfactory manner, and with that object they were, we suppose, prepared to submit to a sacrifice of money. Unfortunately they did not consult their lawyers about accepting the appointments, and as a result they have remained unpaid for their plans. In a legal sense they completely compromised their position.

In all the operations connected with the designing of the Library the architects had apparently assumed that they would be paid the ordinary commission which is approved in the United States. The committees of the Legislature by whom the architects were employed, after the manner of such bodies, did not trouble themselves about the remuneration which Messrs. SMITHMEYER & PELZ were to receive for a continuous supply of new plans and for the labour and expense of seeking data over a great part of the world. In England there is often a similar indifference to the architect's claims. The life of Sir CHARLES BARRY by his son affords evidence enough of the difficulty which was experienced in obtaining a settlement of the architect's accounts for his onerous work in the Houses of Parliament. When afterwards Messrs. SMITHMEYER & PELZ sought their commission, it was insisted by the Government lawyers that by accepting two annual salaries, although they amounted to no more than 8,000 dols. a year, the architects had abandoned the general rule of measuring their compensation by the customary fees of the profession, and therefore the schedule of charges usually adopted was inapplicable. As a matter of fact, the salaries were only paid for six months. The architects had to succumb to the unfortunate weakness which is often exhibited in connection with building, as in other classes of work, in the United States.

An American architect who wishes to hold an official position for a long term must appear to be liable to occasional attacks of blindness. He has to look on inferior materials and on scamped workmanship as if they had no existence and were abstractions of disloyal minds. Mr. SMITHMEYER was willing to aid in the erection of the Library at a low salary, but he could not allow the building which was the object of his dreams to stand on an instable foundation. He condemned cement which was supplied and, as was admitted in Congress, by his inflexible honesty and fidelity to the Government he was compelled to retire, and the construction of his building was handed over to the chief engineer of the army. The services of his partner were also dispensed with. That event occurred in October 1886.

Messrs. SMITHMEYER & PELZ then sought payment for their designs and, unhappily, they are still seeking it. They claimed 2½ per cent. on the estimated outlay of 6,500,000 dollars. That is the commission generally adopted for "preliminary studies, general drawings and specifications" in America. As a specification was not prepared, for the character of the materials was not settled by the committee in 1886, the architects reduced their claim of 162,500 dollars by 3,300 dollars, leaving a balance of 159,200 dollars.

The application came before various departments, but the principal investigation was made in the Court of Claims. There the presiding judge declared "that compensation should be measured by the general rule and usage which govern the compensation of the profession, and that Congress, by adopting the design and using the plans, had become liable to the payment for the preparation of them." The judge considered that the Government were in the same position as would be any body politic erecting a building in the district of Columbia. As to the sum claimed, while admitting it to be large, the judge said "the services embodied in these plans extended through the best part of these men's professional lives, and the risk which they ran was immense. From October 1874, when they began to give their time to the Congressional committees and commissions, until October 1886, when the work of construction actually began, no liability had fallen on the defendants (the Government), and no remuneration had been given to the claimants, who had fought through these twelve years against the professional competition of the whole world." But the Court could not ignore the effect of the acceptance of an appointment at a salary which was not based on any principle of percentage.

The Committee on Claims of the United States Senate took a more favourable view of the services rendered to the State by Messrs. SMITHMEYER & PELZ and of their unlucky salaried office. If we might say so, they considered the subject as statesmen rather than attorneys. The difficulty with the architects was undoubtedly accepting a salary, for it enabled lawyers to maintain that their former services in preparing the plans should be assessed at an equally low rate. The committee, however, pointed out that at the date of the appointment a period of six months had elapsed from the time of completion and surrender of plans to the Government, and therefore the original undertaking or contract between the architects and Government had come to an end, and could not be affected by the subsequent and independent engagement. There was nothing to show that originally one agreement was made, which was to comprise preparation of plans and superintendence of works. While accepting the decision of the Courts, that the engagement as superintendent was in law an implied waiver by the architects of the right to the usual percentage rate for plans and drawings, the committee added:—"It is obvious that the claimants were totally unaware that they had, by any act or omission of theirs, made such a waiver. They unwittingly made themselves the victims of a legal technicality. No such waiver had ever been hinted at or requested by or on behalf of their employer, the Government. To have volunteered it would have seemed an insane act. The Courts could only deal with the claim in its strictly legal aspect, whatever the hardship this would work to the claimants." This statement of the committee is satisfactory, for it suggests that equity can have some hold on politicians in Washington, and that sharp practice is not always recognised as the highest virtue of a State. The declaration of the committee will have a beneficial influence on the status of architects throughout America, and may even produce some effect over public bodies in Europe. In conclusion, the committee recommended that the Bill should be allowed to pass, and again referring to the unfortunate action of the architects in unwittingly abandoning their rights, they say, "without their knowledge or intention, and without any motive for doing so, they entangled themselves in a mere technicality of law, which operated to deprive them of the greater portion of the compensation to which the Courts say they would otherwise have been entitled. We do not believe any honourable man would consent to enjoy the benefit of such an accident, and we therefore believe that the Government should be unwilling to retain in its Treasury the money which only an accident entitles it to, and which in good faith and in fairness and equity belongs to the claimants."

The Bill which is the subject of the foregoing recommendations is too remarkable to be ignored. As we have said, we believe it to be an unique measure, and as a curiosity of legislature it is worth reprinting. It runs as follows :—

> *A Bill for the Relief of John L. Smithmeyer and Paul J. Pelz.*
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> *Be it enacted, &c*, That the United States Court of Claims be, and hereby is, given jurisdiction to rehear and render judgment in the claim of John L. Smithmeyer and Paul J. Pelz for compensation for their services in preparing the plans for the building for the Library of Congress, and no prior settlement or adjudication thereunder of their claim for compensation for said services shall be a bar: *Provided however*, That the measure of compensation shall be awarded upon a quantum meruit basis for all services rendered until such plans were accepted by the United States; and in the absence of express contract the rate of compensation subsequently paid to the claimants for services in the construction of the Library building shall not be evidence of the value of the services of claimants in preparing such plans: *And provided further*, That the measure of compensation shall not exceed the rates and rules established by the custom and usage of the profession of architects for such services; and the evidence heretofore taken and used by either party in the Court of Claims shall be competent in this suit and considered with such other evidence as either part may introduce.

There was no objection to the reading of the Bill, and we hope the architects will not much longer be deprived of money which they have honestly earned by designing a building which is an ornament to Washington. The Bill, it will be perceived, practically recognises a percentage rate in determining the value of architectural drawings, and that is of great importance. In England, we need not say, "reasonable charges" have to be proved in every case, for numerous as have been the actions for recovery of fees there are no decisions which the judges will accept as generally applicable and binding.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

The following Council has been elected for 1900-1901 :—

President.—William Emerson.

Honorary Secretary.—Alexander Graham, F.S.A.

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Representative of the Architectural Association (London).—William Howard Seth-Smith.

Auditors 1900-1901.—Walter Hilton Nash (fellow), Herbert Arnold Satchell (associate).

Standing Committees, 1900-1901.

Art Standing Committee.—John Macvicar Anderson, F.R.S.E., George Frederick Bodley, A.R.A., F.S.A., James Brooks, John McKean Brydon, Robert Shekleton Balfour, James Sivewright Gibson, Henry Vaughan Lanchester, William Douglas Caröe, M.A, F.S.A., Thomas Edward Collcutt, Ernest George, Henry Thomas Hare, Edward William Mountford, Andrew Noble Prentice, William Henry Romaine-Walker, Alfred Waterhouse, R.A, LL.D., John William Simpson.

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Practice Standing Committee.—Thomas Batterbury, Samuel Flint Clarkson, Thomas Harris, William H. Atkin-Berry, Charles Henry Brodie, Herbert Hardwicke Langston, George Hubbard, F.S.A, Alexander Henry Kersey, Joseph Douglass Mathews, Walter Hilton Nash, Sydney Perks, Augustus William Tanner, Beresford Pite, James Osborne Smith, Edmund Woodthorpe, M A., William Henry White.

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SIR F. BRAMWELL, C.E.

A monthly meeting of the members of the Royal Institution was held on Monday, when the following resolution was unanimously agreed to :—

"The managers of the Royal Institution of Great Britain, on the occasion of the retirement of Sir Frederick Bramwell from the office of honorary secretary, desire to place on permanent record an expression of their high appreciation of the admirable way in which he has performed the duties of that office and of his signal services to the Institution generally. Elected a member of the Royal Institution in 1876, Sir Frederick Bramwell has since then delivered seven Friday evening discourses on subjects cognate to that branch of applied science with the progress of which in this country during the Victorian era his name must ever remain honourably associated. Having joined the board of managers in 1879, he was induced in 1885, notwithstanding professional engagements of the most onerous and responsible character, to undertake the additional burden of the duties of honorary secretary to the Institution. For fifteen years these duties have absorbed no inconsiderable proportion of his time, and have been discharged with incomparable energy, business ability and courtesy. Himself a generous patron of the Institution, and foremost to support every project for its advantage, he has been able to suggest improvements in the administration of its property which have added to its material resources. Mainly concerned in the arrangement of the courses of lectures and Friday evening discourses, he has succeeded with no small expenditure of labour in maintaining these at a high level of educational value and in making them attractive and popular and representative of every modern advancement in the arts and sciences. While extending the usefulness of the Institution in every direction and introducing into it many new members, he has by his genial personality done much to promote smoothness and harmony of working in its several departments. The managers feel that the Royal Institution has been singularly fortunate in having so long enjoyed the services of Sir Frederick Bramwell in the capacity of honorary secretary, and they rejoice to know that, although he is no longer to fill that office, they are still to have the benefit of his counsels at their board. Sir Frederick Bramwell's name is indelibly stamped upon the history of the Royal Institution for the last quarter of the nineteenth century. He will always be gratefully remembered by its members, but the managers wish to add to personal remembrance this formal record of their cordial recognition of his merits."

The Chairman announced that the desire had been expressed for a bust of Sir F. Bramwell to be placed in the Institution.

CARDIFF CASTLE.

THE following communication appears in the *South Wales Daily News* apropos of the late discoveries at Cardiff Castle :—

Are the architectural remains and other military landmarks discovered within the outlines of Cardiff Castle Roman? I do not believe they are. The fact that the Welsh call the place "Caer," and not "Castell," indicates that the Romans did not erect anything in the form of a castle at Caer-Dyth, but simply constructed there a temporary military enclosure or castra, the latter being the Latin for what the Britons called Caer. For instance, the Romans constructed a castra on the brow of the mountains above Pencoed to the north. The mountain itself still bears the Latin name Porta, or to carry over. To this day the natives call the mountain on which the Roman camp is still traceable Mynydd y Gaer, or Mons Castra. But they do not call it Castell. Thus Caer and Castell do not signify in Welsh the same thing. It is pretty certain that the Romans borrowed Castra from the Welsh Castell, for we find the Cimbri or Kymri left behind them, during their march through Spain to Britain, a local name to a locality in Spain noted for the bolt-like mountain strata, the name Castell y Follt, or the Castle of Bolts. The place still bears the name. The name dates from long before Rome was founded, and Priscus had his cap taken off his head by an eagle of the Alps. Thus the Romans had but one name for both a camp and a castle, but the Cimbri, as Diodorus Siculus and Plutarch spell the name of our ancient nation, call an enclosure, both military or a field, Caer and Cae, and a military building Castell. Caerwent was the first Roman station in South Wales. It was a Roman enclosure, and the encircling walls still stand. The Welsh did not call it Castell Gwent, but Caer-Went, and the Romans named it Venta-Silurum to distinguish it from Gen Wyeg or Venta Isca in the south of England, with Winchester as its capital.

Now archæologists, blindly ignorant of our real history and our language, forget—indeed they never knew—that the Welsh, as well as each of the other forty-six tribes of Britain, had an admirable system of government when the Romans first landed in Britain. It is well known they had trial by jury and that they were the founders of it. They called it Rhaith, hence Ar Raith, Cyv-Raith (Law). This in their time was a tribal council. It is the original form of the name "Roath." It appears to have been given to a mound like the Tinwald Mound in the Isle of Man, still the sacred place of meeting on every longest day (formerly June 25), but since the adoption of the new calendar of Pope Gregory, July 5. The Glamorgan Rhaith, judging by place names, was at Roath, and that part where Roath Court now stands between two roads. Therefore, when the Roman legions reached the east side of the Rumney river they had, a mile to the west of them, the legal and sacred station of the wise men of Y Syllwg or Siluria. That station was between the Rumney or Rhanaid—to divide—and the Taav rivers. The two rivers must have been boundaries on the east and west of the council, beyond which no sword or spear was permitted, for one of the most ancient maxims of our nation is, "Rhydd i bob meddwl ei Farn, ac i bob Barn ei llafar," or, "Every mind is free to think as it thinks best, and to give expression to its views." Toleration was an early plant among us, but among other nations it is with great difficulty even now kept alive.

To return to Cardiff Castle. The most obscure period in the history of Glamorgan is that between A.D. 180 and 1093. At the former period Lleirwg (Lucius), after whom St. Melons is named, was king of Glamorgan. He was one of those rulers who was priest and king, for he is named "One of the Three Menwedigion-Teyrnedd." I never yet met a Cymro who seemed to know what is Menw, and why it is an ancient title for an ecclesiastic. Of course, Teyrnedd signifies king or monarch. Menw, like Minos or Menu, is the same as mind, and is the title of Hu Gadarn or A Men Ra, the Bardic Logos, the prefix A meaning a pair of wings as sign of a spirit. This was given as a title to an ecclesiastic because by his office he represented the Mind of God. The history of Wales from A.D. 180 to A.D. 440, when we find Tewdrig king of Glamorgan, Breconshire, Monmouthshire and Herefordshire, is yet unwritten. There was here, therefore, a regular government during Roman sway in most of England, except for insurrections which from time to time compelled the Romans to depart as an Imperial authority. All this time we find Wales the principal home of learning in Europe. There was a great and flourishing university at Llantwit Major. We have the names of a succession of eighteen principals of it flourishing before the coming of St. Augustine to Caerlleon-on-Usk in A.D. 596, to meet the seven bishops of the Britannic native Church, whose headquarters then were in Wales. Then we have the other university at Bangor Iscoed, Flintshire. Llantwit Major is often called Bangor Illtud, and people not knowing Bangor was a name given to every university have often confounded the South Wales Bangor with that of Flintshire and *vice versa*.

From A.D. 440 to A.D. 1093 there is reason to conclude Cardiff Castle was the home of the monarchy of South Wales, apart from Dehenbarth, or Wales to the west of Neath river. King Gwrgan ab Ithel ascended the throne of South Wales A.D. 994. He died in A.D. 1030, leaving as his motto for all, "God is on the side of every merciful person." He gave Gwrgan's Park, between Aberdar and Hirwaun Gwrgan, to the commoners of Glamorgan for ever. He was succeeded by that unfortunate tywysog, King Justin ap Gwrgan, who was dethroned in A.D. 1093 by Sir Robert Fitzhamon and his twelve Norman knights and army, aided by Sir Einon ap Collwyn, of Cardigan. He afterwards, having married Princess Nest, daughter of King Justin, dwelt at Llantrisant Castle, Miskin Manor, or, correctly, Maes Gwyn, and as it appears Collena, Tonyrefail. All the facts glanced over above indicate that Cardiff Castle and its magnificent grounds have been the home and walks of kings and their courtiers during rolling centuries, long after the Romans left and before the Normans came and took advantage of the weakness of a people to spoil them in more senses than one. The level green glades of the park, stretching back for a mile and more from the castle itself, were doubtless the result of labours expended by warrior kings to make the approaches visible to enable the castle to be defended from any attack. All the foregoing considerations convince everybody we are going much too far back in accounting for the antiquarian remains of Cardiff Castle and environs to the Romans. I forgot to mention above that the national Parliament of all the tribes of Britain numbered 300 members, and was called Aesach or Shield of the Nation. It appears to have been a Court of Appeal from each Rhaith.

DUNKELD CATHEDRAL.

FOR more than two years the "Dunkeld Cathedral case" has occupied the attention of the Presbytery of Dunkeld, the Synod of Perth and Stirling and the General Assembly of the Church of Scotland. The circumstances are peculiar. By a royal warrant, dated September 4, 1811, John, fourth Duke of Atholl, received 996*l.* 18*s.* "for repairing the Cathedral Church of Dunkeld, and for granting the Choir of the Cathedral to the Parish of Dunkeld to be used as a Parish Church." The effect of this warrant was to give the supposed parish a right to the choir for a parish church and to impose the duties of maintenance on the Duke of Atholl and his successors. But in certain respects the document was ambiguous; and two years ago the Presbytery resolved to investigate the matter, with the result that a later royal warrant was discovered, of which the present Duke of Atholl and the Church of Scotland had alike been ignorant. It was found that in 1811 the then duke, on receiving the warrant of that year, had addressed a communication to the Treasury pointing out that "there is not now, nor ever was, any such Parish as that of Dunkeld, nor yet any Parish Church." The effect of his communication was that the royal warrant of 1811 was cancelled, and another granted on July 29, 1812, containing the following direction:—"Do also authorise and empower you to make a grant of the choir of the said Cathedral to the said Duke and his foresaids, to be used as a place of public worship in all time coming."

The discovery of this second warrant, however, instead of throwing any light on the question as to the rights of the Church of Scotland, only added to the confusion. For the words "place of worship" did not necessarily mean a place of worship in connection with the Church of Scotland. And there was also, on the other hand, a knotty question as to whether a royal warrant could override the common law, according to which a presbytery "is the permanent guardian and superintendent of the ecclesiastical establishments within its bounds." The case went from the Presbytery to the Synod, and from the Synod to the General Assembly. The Assembly last year sent it back to the Presbytery, but it went again from the Presbytery to the Synod, and in due course reached the General Assembly once more. It has, however, at last been disposed of. According to a report submitted to the General Assembly by a special committee, the proprietary title to the cathedral is vested in the Duke of Atholl; it is his duty to see that the building is kept in good order and repair, and he is liable for the expense of maintaining it. His Grace is also entitled to appoint a custodian of the fabric. But the building cannot be used, according to the committee, except for the religious worship of the Church of Scotland; the minister has the control of the use of the building for that purpose; and the minister, kirk-session and congregation have as full rights, with reference to the use of the church for divine worship, as in the case of an ordinary parish church. The present duke concurs in this view, and has written a letter stating that since the choir of the cathedral was restored by John, fourth Duke of Atholl, it has been continuously used as a place of worship in connection with the Church of Scotland, and it is his wish that it should remain so. His Grace adds:—"I consider that it would be out of the power of myself or my successors to divert it from the Church of Scotland, and I certainly shall never do anything which could have that effect."

The General Assembly has, by a majority, passed a resolution expressing its satisfaction at learning that, in the opinion of the committee, the cathedral church of Dunkeld is dedicated by law to the worship of the Church of Scotland for behoof of the people of Dunkeld, and that his Grace the Duke of Atholl recognises that the fabric is vested in him subject to this trust, and declaring that it is unnecessary to take further action. A minority of the Assembly desired a new royal warrant to be applied for, authorising a grant of the cathedral to "the parish of Dunkeld," to be used as a parish church in all time coming. But one strong objection to this was that it raised an old and long-disputed question as to whether there is, legally, a parish of Dunkeld. On a division the resolution to allow the matter to drop was adopted by 109 votes to 78. So that the much-discussed "case" is, in all likelihood, at an end now.

Dunkeld is peculiarly rich in ancient ecclesiastical associations; indeed, it ranks next to Iona. According to tradition, there was a religious house at Dunkeld as early as the year 570. Columba, accompanied by Kentigern, is said to have visited the place and resided there for six months. The original religious house—whether monastery, cell, church, or college is matter of dispute—was of wattles, but in the eighth century its place was taken by a stone structure. In the following century King Kenneth MacAlpin built a new church at Dunkeld, and the relics of St. Columba—which had been buried at Iona, but which, owing to the ravages of the Norsemen, were no longer safe there—were removed to this more secure retreat. Dunkeld long thereafter held the position of mother church of the Culdees. The last of the Culdee abbots was, in 1127, made a diocesan bishop of the Church of Rome. Among the abbots were many distinguished ecclesiastics, and the bishops of Dunkeld included the famous Gavin Douglas.

The oldest part of the present edifice is the choir, which was founded by Bishop Sinclair in 1318. But most of the structure belongs to the fifteenth century. The style of architecture is composite, being characteristic in certain respects of both the Norman and the Pointed styles. At the time of the Reformation the edifice suffered the common fate of Scottish ecclesiastical buildings. By a letter dated August 12, 1560, the Lairds of Airntully and Kinvaid were directed by the authorities to "pass incontinent to the kyrk of Dunkeld, and tak doon the haill images thereof, and bring furth to the kyrk-zayrd and burn thaym oppinly. And sicklyk cast down the altaris, and purge the kyrk of all kynd of monuments of idolatrye." Very little regard appears to have been given to the reservation to "tak guid heyd that neither the dasks, windlocks, nor dooris be ony ways hurt or broken—either glassin wark or iron wark"; for the windows were smashed and the doors torn from their hinges. Later the Laird of Cairdney unroofed the cathedral.

After the Reformation the choir was used as a Protestant place of worship. In 1600 Stewart of Ladywell roofed it at his own expense; a century later the Atholl family repaired it; in 1762 the Government gave a grant of 300*l.* towards its repair, and since then both the Government and the Dukes of Atholl have spent considerable sums on it. With the exception of the choir the cathedral is in ruins, but even in its ruinous condition it is a splendid pile. There are several very interesting monuments in the interior, including that of the notorious "Wolf of Badenoch," the third son of Robert II. The chapter-house has been converted into a mausoleum for the Atholl family.

TESSERÆ.

Early Rome.

THE city of Rome, as well as its inhabitants, was in the beginning rude and unadorned. Those old rough soldiers looked on the effects of the politer arts as things fit only for an effeminate people, as too apt to soften and unnerve men, and to take from that martial temper and ferocity which they encouraged so much and so universally in the infancy of their State. Their houses were (as the name *tecta* they gave them signified) only a covering for them, and a defence against bad weather. In the same manner, perhaps, the word *culmina* for the roofs of their houses shows their old method of covering them with straw. These sheds of theirs were more like the caves of wild beasts than the habitations of men, and were rather flung together as chance led them than formed into regular streets and openings. Their walls were half mud, and their roofs pieces of board stuck together; nay, even this was an after-improvement, for in Romulus's time their houses were only covered with straw. If they had anything that was finer than ordinary, that was chiefly taken up in setting off the temples of their gods; and when these began to be furnished with statues (for they had none till long after Numa's time) they were probably more fit to give terror than delight, and seemed rather formed so as to be horrible enough to strike awe into those that worshipped them than handsome enough for anyone to look upon them for pleasure. Their design was answerable to the materials they were made of, and if their gods were of earthenware they were reckoned better than ordinary, for many of them were chopped out of wood. One of the chief ornaments in those times, both of the temples and of private houses, consisted in their ancient trophies, which were trunks of trees cleared of their branches, and so formed into a rough kind of posts. These were loaded with the arms they had taken in war, and we may easily conceive what sort of ornaments these posts must make when half-decayed by time and hung about with old rusty arms, besmeared with the blood of their enemies. Rome was not then that beautiful Rome whose very ruins at this day are sought after with so much pleasure; it was a town which carried an air of terror in its appearance, and which made people shudder whenever they first entered within its gates.

The Campagna of Rome.

There is no more impressive scene on earth than the solitary extent of the Campagna of Rome under evening light. Let the reader imagine himself for a moment withdrawn from the sounds and motions of the living world and sent forth alone into this wild and wasted plain. The earth yields and crumbles beneath his foot, tread he never so lightly, for its substance is white, hollow and curious, like the dusty wreck of the bones of men. The long knotted grass waves and tosses feebly in the evening wind, and the shadows of its motion shake feverishly along the banks of ruin that lift themselves to the sunlight. Hillocks of mouldering earth heave around him, as if the dead beneath were struggling in their sleep; scattered blocks of blackstone, four square, remnants of mighty edifices, not one left upon another, lie upon them to keep them down. A dull purple, poisonous haze stretches level along the desert, veiling its spectral wrecks of mossy ruins, on whose rents the red light rests like lying fire on defiled altars. The blue ridge of the Alban Mount lifts itself against a solemn space of green, clear, quiet sky. Watch-towers of dark clouds stand steadfastly along the promontories of the Apennines. From the plain to the mountains the shattered aqueducts, pier beyond pier, melt into the darkness, like shadowy and countless troops of funeral mourners passing from a nation's grave.

The Theatre of Epidaurus.

This immense place lies very retired and private, surrounded by mountains, but everything glorious is annihilated; the theatre of the Epidaurians alone was too large for the barbarians to destroy. It is prudently situated within the holy territory to the south of the reservoir, and occupies the whole side of a low mountain; it is so overgrown with shrubs and vegetation that it might be mistaken in the distance for a green declivity. At a great height the seats of white marble are well preserved, with a fine polish; only the lower ones are triflingly injured. In the middle of the lowest row stood a single marble seat like an armchair; this is overthrown. The theatre is of great size; the scene, however, small. It is cut off behind by a running brook of water. Pausanias thus mentions this theatre:—"The Roman theatres excel all others in splendour, it is true, as that of the Arcadians at Megalopolis exceeds in size; but in harmony and beauty what architect could dare to measure his works with that of a Polycletus? for it was Polycletus that constructed this edifice."

Abstraction in Architecture.

Of all the abstractions that can be carried on within the sphere of sense, the one most subtle and most difficult to conceive is that which separates, in one object of sight, form from colour. For the sensuous impression is one. The colour delineates the form. Yet we know perfectly well that we do effect this separation; that the object, which we have seen with the form blended in colour—the two being quite indivisible in the impression of sense—is yet without any difficulty and most familiarly separated in the conception of the mind, when it retraces the recollection of form and neglects the colour. Nothing is easier to imagine than that the architect, who has carefully examined the proportions of a remarkable building, should from memory, and as a record of what he had seen, and as a second study of the same proportions, delineate the outline of the whole. Now in this case he performs sensibly to sight, and almost with material instruments, a work of abstraction. For he conceives and delineates pure form, and when he has finished his work and reconsiders it, and comparing the effect of the whole with the entire conception from which he has drawn, is satisfied that his delineation is a faithful record of the original, at that moment his intelligence must needs make the same separate representation of form in thought which his pencil has traced before his eyes; that is, must separate it from all conception of the colour, and the substance itself of which the building is composed, be it Craigleith stone or Parian marble.

NOTES AND COMMENTS.

The law of fixtures generally bears hardly on tenants, but its rigour can be modified by means of agreements. Lessees can have, however, slight hope of favourable conditions if it can be shown that the Courts are disposed to interpret agreements for a tenant's convenience unfavourably for the landlord. A case which involved that risk, and on which we have already commented, arose at the end of last year at Halifax, and came before the Court of Appeal on Tuesday. As far back as 1871 a building estate was sold by auction in lots at Halifax. One of the conditions was that all the buildings to be erected should be in accordance with the building line laid down on the plan. The plaintiff, a Mr. Shoesmith, bought some of the lots, and in course of time erected a house on one of them, and then leased it for seven years. Afterwards he gave permission to his tenant to erect a detached billiard-room, with the privilege of removing it at the end of the term. It had brick foundations with sleepers embedded in mortar, to which a timber platform was secured by bolts. Subsequently the billiard-room was removed. In 1898 some adjoining lots were sold by auction, and the purchasers, Dodd & Co., Limited, were informed of the existence of a building line which had to be respected. They, however, instead of building 60 feet from the road, proposed to go quite close to it, and application for an injunction was accordingly made by the plaintiff. The contention of the defendants was that the plaintiff, by allowing the erection of a billiard-room beyond the line of frontage on his own land, was not in a position to claim relief. The case was heard before Mr. Commissioner Bosanquet. He decided in favour of the plaintiff on all points, and granted the injunction. The appeal of Dodd & Co., Limited, was dismissed, the Master of the Rolls and Lords Justices Rigby and Collins coming to the conclusion that the billiard-room was not to be regarded as a building, for evidently the tenant was aware that if he could remove the structure on leaving, he could be also called upon to remove it if the development of the property made that course necessary. As it happened, no injury arose to the plaintiff for allowing the tenant to erect a structure which he could claim as his own; but a very slight change in the circumstances would have been sufficient to make the plaintiff liable to damages.

It is difficult to persuade clients about the necessity of expending money on the examination of the formation of a building site. An architect is by some expected to infer the character of what is invisible, while other clients are indifferent because they suppose the risks, if any, will fall on the builder. It is not realised that builders must endeavour to provide for unknown difficulties, and that unstable foundations may be reckoned at a liberal sum among the contingencies. There is no year passes without injuries arising to buildings which could be prevented if a more thorough examination of the sites were sanctioned. The Brighton Corporation have lately shown much prudence in dealing with the subject. It is intended to erect a large electricity station at Southwick. At the suggestion of Mr. May, the borough engineer, three trial holes were sunk at a cost of about 1,515*l*., in order to determine the character of the site. With the exception of a thin layer of breccia in the first hole the result of the excavations shows that the materials overlying the blue clay are beach and sand, the accumulation of ages. The outlay may appear to be heavy, but, as the engineer says, it will probably be more than saved by a reduction in the amount of the tenders for the construction of the foundations of the buildings. The difficulties connected with the site being clearly ascertained, it will be feasible in the preparation of the specification to give all the information needed by the contractor to enable him to send out a definite tender, and so to avoid the large margin for unforeseen risks which otherwise he must have added for his own security.

According to the "Year Book of Australia," the progress of the timber-getting industry remains almost stationary, save in Western Australia, where a considerable amount of colonial and British capital has been expended in exploiting the forest resources of the colony. At the present time the Australian colonies are importing timber to something like double the value of that exported by them, but the work of forest conservation has generally been so largely neglected that it is doubtful whether, for several years to come, there will be more than a nominal increase in the annual value of the Australian exports of timber, however great may be the demand in local and oversea markets. Possibly, had the commercial value of the Australian hardwoods been earlier recognised, something would have been done to prevent the wholesale spoliation of colonial forests, as in Victoria, where a Royal Commission has reported very unfavourably respecting the prospects of the timber resources of the colony, unless steps are taken both to conserve the existing supply and to arrange for planting the devastated areas with young trees. The late Mr. J. Ednie Brown, conservator of forests for Western Australia, was emphatic in his declaration of the value of the colonial forest lands as a source of State revenue, and repeatedly pointed out that the attention given to forest conservation in British India, Canada, and the United States emphasised its importance in Australia. In British India there is a well organised system of forest control, based on the methods adopted in France and Germany, which brings in an annual revenue of more than 1,000,000*l*. sterling. The State forests cover an area of fully 113,000 square miles, or nearly 12 per cent. of the land surface of the three presidencies. In Canada the State forests cover an area of about 1,200,000 square miles, or nearly 37 per cent. of the land surface of the Dominion. The forest reserves are owned and controlled chiefly by the provincial authorities, and the annual value of the timber exports exceeds 5,000,000*l*. sterling.

ILLUSTRATIONS.

WESTMINSTER ABBEY: HENRY VII.'S TOMB. HENRY VII.'S CHAPEL AND TOMB.

THE ITALIAN HOSPITAL, QUEEN'S SQUARE, LONDON. THE PORCH.

The façade was designed to be executed in Portland stone and red brick. The dome which surmounts the semicircular staircase in Devonshire Street is covered with lead. The basement is devoted to the servants' department, kitchen, larders, store-rooms, servants' hall, linen-room, heating chamber, washhouse, post-mortem room and a vaulted mortuary under the roadway. The ground floor consists of entrance-hall, board-room, secretary's, house-surgeon's and porter's rooms, operating-room with accident ward adjoining, semicircular staircase with patients' lift in the centre. The out-patients' department is shut off from the hospital, and consists of waiting-room, with separate entrance and exit, physician's, surgeon's and registrar's rooms, dressing-room and pharmacy. The first floor is devoted to male patients, and consists of a ward for fourteen patients, smaller ward for four, and four single wards for special cases, with two detached sanitary blocks containing bathroom, lavatories, water-closet and slop-sinks. The staircase is detached from the wards by cross-ventilated lobbies. Opposite the staircase is the nurses' duty-room, fitted with hot closet, sink, cupboard and flap-table, with food lift outside. The second floor is devoted to female patients, with a ward for eight, smaller ward for four, two single wards for special cases, children's ward and an isolated ward disconnected by a corridor open to the air. Sanitary blocks and duty-room, lifts, &c., the same as on the first floor. The top floor is arranged for the nursing sisters, and contains dormitory, sitting, dining, sick, work-rooms and detached sanitary block. Two outside unenclosed lifts are provided to every floor for coals, dust, soiled linen, &c. One of the roofs is used as an airing ground for patients, with a covered shelter. The chapel is at the top of the staircase under the dome. The staircase and floors are fire-resisting throughout. The ward floors are of oak in narrow widths, grooved and tongued, and secret nailed and wax polished. The building is warmed throughout and lighted by electricity. The work has been executed by Messrs. Holloway Bros., of Belvedere Road, from the designs of Mr. Thomas W. Cutler, F.R.I.B.A.

STAINED GLASS IN ENGLAND SINCE THE GOTHIC REVIVAL.

WITH SOME ACCOUNT OF THE CHURCHES REFERRED TO.

By T. FRANCIS BUMPUS,

Author of "Ecclesiologia Germanica," "Summer Holidays among French Cathedrals," &c.

(Continued from page 242.)

The Works of Hardman.

BEFORE proceeding to a discussion of the works of the artist in stained-glass whose name heads this chapter of our history, it may not be uninteresting, seeing that many of his productions date from the very earliest days of the Pointed Revival, to take a glance at the condition of church architecture in the early thirties, when Hardman was starting on his career in Paradise Street, Birmingham.

In London, Wren's choir at St. Paul's, with its valuable and interesting early post-Restoration arrangements, rich in the carving of Grinling Gibbons, remained intact,[*] and a beautiful picture it must have presented, albeit walls and windows were guiltless of mosaic and stained-glass.

The offices were performed in this choir with maimed rites it is true, yet day by day the organ on its marble screen at the west end, responding to the masterly touch of Attwood, accompanied the voices of choristers—the condition of whose juvenile members a patriotic lady[†] was watching and praying to ameliorate—in those services and anthems which have been, and still are, one of the richest heritages of the English Church and the daily solace of many of the devout.

Of the wonderful galaxy of City church steeples grouped by one master hand around that dome in which day by day these sweet strains seemed to linger, as if "loth to die," not one had as yet fallen beneath the utilitarian iconoclast. On the opposite side of the river the thirteenth-century nave of St. Saviour's was, though roofless, still standing; the elder Gwilt had restored the choir with a conscientiousness most praiseworthy for the time, and the lady chapel—or the retro-choir, as an eminent architect lately taken from us always insisted on styling it—had narrowly escaped destruction, thanks in no small measure to the exertions of several earnest lovers of antiquity, among whom were the painter Etty, and that indefatigable contributor to Mr. Sylvanus Urban's erudite and delightful monthly, E. J. Carlos.

At Westminster Barry's gorgeous Palace had not yet begun to arise, phœnix-like, from the ashes of that "huge agglomeration of fragments of buildings and sham buildings and undesigned excrescences, in every style and fashion, real or assumed, from the noble, truth-seeking, high-motived efforts of the thirteenth-century Churchman, who built not for man's eye, down to the plaster whims and nicknacks of the 'first gentleman in Europe.'" In the Abbey, Keene's old eighteenth-century Gothic choral arrangements—solemn of their kind, perhaps—remained undisturbed when in 1833 Blore, who had just refitted the choir of Peterborough Cathedral, put the present front to the screen, at the same time giving the organ a Pointed case; but the ponderous Classic altar-piece of Queen Anne's time had given place, just before the coronation of George IV., to what must be considered for the period a very tolerable "restoration" in "artificial stone" by Bernasconi, from Wyatt's plans, of the old reredos. Under Sir Robert Smirke, the choir of York Minster had been made to assume as much of its former character as was possible, after the deplorable conflagration of 1829; the work, seeing that it was carried out during the infancy of the Revival, being most praiseworthy.

An immense mass of Mediæval building dotted the country. Much of it was in a sad state of neglect, and although churches of every grade presented too many an accretion and botching of a debased epoch in our architecture, yet they were instinct with authentic history, and, to a certain extent, picturesque. No cathedral choir had as yet been "opened out," and with a few exceptions they retained their Mediæval woodwork.

In the suburbs of London and our larger provincial towns the ponderous pseudo-Classical and Gothic but well-intentioned and liberal churches of the Commissioners had been succeeded by others as bad as they could be—an abject fry, the product of the cheap church mania. All the subsidiary arts had reached their bathos; indeed, church feeling and arrangement generally had done so half a century earlier; still it had contrived to live through the coldest Hanoverian days of apathy and neglect. Just a spark of life remained, and this the two great revivals—the moral at Oxford and the artistic at Cambridge—ere long fanned into a flame. The authorities of the Church were being questioned, and she proceeded under men who seemed to be specially raised up for the purpose to collect and review them, and to open out a vista of possibilities of which we have not even yet seen the end.

Of the two architectural societies set on foot within a little more than a year after the Queen's accession, that inaugurated in the winter of 1838-39 at Cambridge, and styling itself the Cambridge Camden Society, more nearly concerns the subject of these papers, seeing that on its removal to London a few years later it was enabled in that locale to include in its observation a much more comprehensive view of all that was going on in the world of ecclesiology, the study of which, once started, was pursued by men of all classes with unbounded enthusiasm.

When the Society was first formed it had to fight a desperate battle against overwhelming odds, for its members were neither grave ecclesiastics nor practical architects, but simply undergraduates of Cambridge, bringing to their work no little of the petulance of youth and the inexperience of tyros. Still, some truths had been grasped, and those truths were manipulated. A few years rolled by and the Society aggregated so many allies to its body that the members were able to criticise themselves and to invite the world to do the same. Architects excogitated, committees patronised, church dignitaries and lay folk at their own private cost built churches of a richness and truthfulness of design which the Camdens, when struggling into existence in Hutt's back room at Cambridge, could never have thought possible. A couple of years later the Society issued the first number of its organ, *The Ecclesiologist*, the primary design of which was to afford means of communication on all subjects connected with ecclesiology between headquarters and scattered members. Church building at home and in the colonies was discussed. New churches and the restoration of old ones were reviewed. Church desecrations too were animadverted upon, while every number contained one or more ably written articles on the theory and practice of architecture, its connection with ritualism, its symbolism and the principles of church arrangement. At first *The Ecclesiologist* bore upon its pale yellow wrapper the motto, "Surge igitur et fac, et Dominus erit tecum"; this after the lapse of a few years was combined with the very significant one, "Donec templa refeceris."

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[*] Wren's choir remained undisturbed until 1859-60, when, under the pretext of obtaining extra accommodation, the organ-screen was removed, the organ itself set up above the stalls under the second arch on the north side, and the return stalls of the dignitaries placed in the sanctuary to serve as sedilia. This arrangement lasted for ten years, when in the summer of 1871, and under the auspices of Dean Church and his "Great Chapter," the redistribution of the choral fittings which we now see was commenced. On the Prince of Wales's Thanksgiving Day, February 27, 1872, the choir in its altered—though far from complete—state was used for the first time, and the dome space thus made available for both Sunday and week-day services.

[†] Miss Maria Hackett. "To this lady, through the course of a long life, the welfare of the chorister boys of this cathedral, and of those of every other cathedral and collegiate church in the kingdom, was the object of deep and unfailing interest. After devoting her time and substance to efforts which nothing could discourage for the improvement of their condition, she was allowed to see, on all sides, the result of her labours. Her books, "A Brief Account of Cathedral and Collegiate Schools" (4to, 1821-73), and "Correspondence and Evidences respecting the Ancient School attached to St. Paul's Cathedral" (4to, 1811-32), are not only deeply interesting, but display great erudition; while numberless letters—published and unpublished—are specimens of the best "English undefiled." Her "Popular Account of St. Paul's Cathedral," first issued in 1816, went through many editions. It contained information not to be found in works of greater magnitude and pretension, and contemporary writers on the same subject, by adopting, without acknowledgment, the conjectures first broached in its pages, perhaps paid the most unequivocal compliment to its accuracy. To Miss Hackett's untiring efforts with purse and pen, that unique piece of Domestic architecture, Crosby Hall, adjoining her residence in Crosby Square, Bishopsgate, owed, in a great measure, between 1831 and 1842, its preservation and restoration. Here she gave frequent private concerts of high-class music, in which she had the assistance of members of the three metropolitan choirs, and of a host of musicians—professional and amateur. For seventy years Miss Hackett constantly and regularly attended the services at St. Paul's. She lived, not only to see vast improvements carried out in the fabric and its services, but also to witness the complete reorganisation of the choral staff, and the erection of the new school-house for the choristers almost upon the site of the ancient choral grammar school, dating from the time of Edward the Confessor, and founded anew, in 1108, by Richard de Belmeis, Bishop of London. Miss Hackett's death took place on November 5, 1874, during a celebration of the Holy Communion at her bedside by the Rev. W. J. Hall, then, and still, one of the minor canons of this cathedral. As a mark of respect the choristers, vicars choral and assistant vicars choral attended her to the grave in Highgate cemetery on November 10. She was in her ninety-first year." (Extract from inscription beneath the portrait of Miss Hackett lately presented by Mr. John S. Bumpus to the vicars choral of St. Paul's, and now hanging in their vestry.)

St. Augustine's, Ramsgate, from S.E.

That the ecclesiological movement was the spontaneous growth of the English Church is a fact that few will now attempt to controvert. Pugin, to be sure, had, a year or so before the formation of the Cambridge Camden Society, and under the patronage of the Earl of Shrewsbury, built several churches of great size and considerable grandeur for the use of the Communion which he embraced in 1833.[*] It was not, however, until England had felt a new want and entered on a new study, and when English architects were learning in a new school, and English churches arising on a new plan, that Pugin's works began to be appreciated by his co-religionists.[†] Indeed, he himself candidly confessed that he had for several years designed and built churches without any knowledge of the true principles of ecclesiastical arrangement. Notwithstanding religious differences, Pugin always remained in friendly intercourse with the clergy of the Anglo-Catholic Church, architectural societies of the sister universities, and others who devoted themselves to the task of bettering the state of ecclesiastical art in this country. It cannot be questioned that to his wonderful manipulative skill with the pencil, and his knowledge of fifteenth-century detail—as evinced principally in the Houses of Parliament—we are indebted for the excellence of so many of our instrumenta ecclesiastica. Stained-glass, too, received no little attention from Pugin, and although he now and again entrusted its execution to Wailes, Warrington and O'Connor,[*] he was desirous of having this special branch of the art carried out under his immediate supervision, and the direction of one whose views for its progress were entirely at one with his own, and whose energy and activity promised cordial and sympathetic co-operation.

It was in 1837 that Pugin became acquainted with Mr. John Hardman, who, as related at the outset of this chapter, had established himself in Paradise Street, Birmingham. The friendship, once formed, between Pugin and Hardman lasted undisturbed during fifteen years of almost daily correspondence and frequent personal converse, until the death of the former in prime of manhood on September 12, 1852. To this friendship must be traced Hardman's undertaking to start metal and glass works on strict Mediæval principles from the designs and with the advice of Pugin, who built a studio at his house, St. Augustine's, Ramsgate, for the preparation of cartoons. The church attached to this residence is, although not one of the architect's largest works, perhaps the most pleasing, from the fact that in designing it he was unhindered by pecuniary considerations.

It abounds in that carefulness and refinement of detail which Pugin was such an adept at producing, and it recalls by its square though incomplete tower, by its flint material, and by the employment of one transept, sundry local examples. Here he worked away with his son Edward, then a boy of eleven, and his son-in-law, Mr. John Edward Powell, gathering by degrees a sufficiently large and skilled band of draughtsmen to carry on under Hardman's guidance the large works in stained-glass which had been started on so humble a scale, and with but little knowledge of true principles, fifteen years before. Thus the true principles of the old art were, after much labour, triumphantly established on the ruins of the picture-making process. The rough glass superseded the smooth, pot metal succeeded enamel, mosaic treatment took the place of shadowed relief, artistic conventionalism and symbolism triumphed over mechanical imitation and material representation.

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[*] Three years later he published that book which, intemperate and one-sided as it may have been, undoubtedly had the effect of awakening the country to the degraded state into which its architecture, both civil and ecclesiastical, had fallen. But it was manifestly unfair to place a building, or the arrangement of an Anglican church of 1835, opposite one of the palmiest days of Pointed architecture. Far more appropriately the interior of a Roman Catholic chapel of the period would have been given.

[†] For in spite of all he had written on Mediæval church architecture, Pugin met with but cold support from the greater portion of the body whose tenets he had rashly embraced. If report says true, he was laughed at and put down. Roman England would have nothing to do with him. "This one fellow came in to sojourn, and he will needs be a judge," said they. "Let us stick to our meeting-house-like chapels, our pews, our operatic music in the gallery, our sham marble altarpieces, French nicknacks, paper flowers, imagery from the toyshops, and fiddle-back, board-like vestments—in a word, our Italian-made-easy system." In the majority of cases Pugin's exquisite designs for lecterns, coronæ, tabernacles, standard candlesticks, side curtains, thuribles, ciboria, altar plate, vestments, processional crosses, *et hoc genus omne*, were thrown away upon those for whom they were designed, being much more appreciated and ardently longed for by devout congregations of Anglo-Catholics, who were enabled ere long to furnish their churches with instrumenta which, if not emanating exactly from the ateliers of Pugin, bore upon them the impress of that unwearied battler in the cause of religious art.

[*] As in St. George's, Lambeth, St. Chad's, Birmingham, and St. Saviour's, Leeds, a church built under strong Puginic influence by Derick, of Oxford. Some account of the windows executed by O'Connor, under Pugin, for this church will be found in an earlier number of this series.

The windows in St. Augustine's, Ramsgate; in the college chapels of Ushaw and Ware; in St. Giles, Cheadle; St. Wilfred, Coton Hall, and St. Alban, Macclesfield, may be selected as typal examples of the Hardman-Pugin fabrique, all the above-named buildings having been designed by the latter during the forties.

Glass in which they collaborated may also be seen in other Roman Catholic churches, not from Pugin's pencil, as, for instance, the west window of St. Marie's, Sheffield, based by Hadfield and Weightman upon a study of Heckington Church; while in Wardell's pretty churches at Clapham and Brook Green, both of which were raised when English Late Middle Pointed work was admired as the most perfect development of Pointed architecture, the vitreous decoration, if not designed immediately under Pugin's superintendence, is thoroughly characteristic of that master. The window above the high altar in the Brook Green church is remarkable not only as a fine piece of colouration—*i.e.* for the period of its execution (c. 1851)—but as an instance of how, by skilful draughtsmanship and care in the combination of tinctures, a six-light window may contain two tiers of subjects, each confined to a single compartment, without any effect of confusion. Indeed, both this window and the one at the east end of the north aisle, consonant as they are with the architecture of the church, are greatly superior to what has since been put up in the nave.

St. Augustine's, Ramgate, South Aisle.
(*A. W. Pugin, Architect*, 1842.)

Before quitting the subject of Pugin's churches, the stained-glass by Hardman in the eastern windows of the Roman Catholic church of St. Thomas of Canterbury, at Fulham, although later in date than the building itself, may be alluded to here. From its tinctures and style of drawing this glass would appear to belong to a period subsequent to the death of Pugin, and though the influence of that master can be traced in its iconography, the work in ensemble recalls that executed by Hardman during the later fifties for the apse of St. Michael's College, Tenbury.

The church is a long, low building,* with nave and aisles under separately gabled roofs, completed in 1848, and a tower and spire of somewhat later erection. This latter is not engaged in the west end of the north aisle, but projects from it with an agreeable effect. In style this church presents a mingling of the Geometrical and Flowing Decorated, the nave being divided from its aisles by cylindrical columns prettily polychromatised, but with rather poor bell-shaped capitals. There is no chancel arch, this portion of the church being distinguished from the nave by its piers, which are pentagonal in form and without caps, and by its roof which is ceiled and divided into panels for decorative purposes, while that to the nave is raftered with plaster between.

Either aisle has at its eastern extremity a three-light window, of which that to the south above the altar of Our Lady has subjects from the Life of the Blessed Virgin, and that to the north The Crucifixion, with on either side two small but very clearly treated groups from the Life of St. John. The tinctures in both these windows are brilliant without gaudiness, free from commonplace accessories, and in ensemble very Mediæval. In the great east window, a five-light one with flowing tracery, the single effigies of St. Thomas of Canterbury, supported on either side by St. Elizabeth and the Magdalene, St. Agnes and St. Henry, only occupy half the height of the compartment, the lower portion being filled in to form a reredos. The background to the central figure is ruby, that to each side one deep blue, but the judicious admixture of white in the robes prevents the whole from being oppressed by positive colour. The small group of the Virgin and Child in the tracery above the central light, and of SS. Peter and Paul in that of the sub-arcuations, are very felicitously treated. Indeed, for a window of its size this one at Fulham may be cited as among the happiest efforts of Hardman, seeing that it was executed nearly half a century ago.

THE RELATION OF THE HEBREWS TO ARCHITECTURAL DEVELOPMENT.†

THE reasons for the peculiarities of a race of people will usually be found in its pre-natal condition or in the influences of its environment, or both.

The Israelites were the most musical and the most poetical people of antiquity, and yet they hated sculpture, had no love for painting, and no capacity for architecture. Why?

When the ancient tribes from which the Hebrew races are descended made their first appearance in the Accadian empire, they came as conquerors. Prior to this advent they had led a nomadic life. When they entered Accadia, now popularly known as Chaldea, they found a civilisation already tottering under the weight of years. The great temples, palaces and libraries—among the most stupendous buildings ever erected by human hands—stood out from the sun-kissed plain of Mesopotamia like stepping-stones for the gods. But the building age of the old empire had long since passed away. The splendid sculptures, the rich mosaics and the massive towers were already weaving their shrouds of dust. The mental giants who had booked the processions of the stars and invented mathematics had slept for ages in their tombs. These Shumirian conquerors, vigorous and aggressive as they were, were totally unable to resist the effects of the older and higher civilisation, and were in time totally absorbed by it, and carried down with it, except that, being the rulers, their language became the court language of the country.

The Elamitish conquest and the religious schism which is responsible for the origin of the Hebrews as a separate people, and the departure of Abraham from Chaldea, never to return, occurred before building was revived. Thus from time immemorial the ancestry of Israel had not been builders. The faculty for architecture which they might originally have had had become atrophied by centuries upon centuries of disuse.

After the emigration of Abraham, 100 years or so of wandering in a country where building as an art was unknown brought the children of Israel to Egypt, where they had their first baptism as builders. Unfortunately for them, it was a baptism of sorrow and oppression. During 300 years of slavery, instead of enjoying an opportunity to learn architecture from the great monuments which adorned the valley of the Nile, they were compelled to lead a life of drudgery. If any tender germ of building genius had appeared while their forefathers were in Chaldea, or during their earlier years in Egypt, its life was so effectually destroyed by the Egyptian taskmasters in those centuries of bondage that 3,000 years have failed to restore its validity.

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* When first built this church stood in a district comparatively rural, otherwise Pugin would have given it that height so essential to a town church by the addition of a clerestory. The want of this feature since the immense growth of the district is somewhat sorely felt now.

† A paper by J. W. Yost, F.A.I.A., read at the annual Convention of the American Institute of Architects.

Forty years of wandering in the wilderness and four centuries of almost continuous warfare at home or abroad, during the subjugation of Palestine, bring us to the time when the political pride and the financial condition of Israel required a suitable manifestation in the erection of a temple and a palace in keeping with those to be found in the great capitals to the east and south.

The reason why Israel came to this period in her history unprepared to assume the responsibility for the design or decoration of such buildings was largely because of the peculiar conditions prior to the origin of the Hebrew races, and the surrounding influences during a thousand years afterwards—conditions and surroundings which developed her love for poetry and song, and at the same time destroyed her talent for art. Another fact should be remembered in this connection. The erection of Solomon's temple, with its adjoining buildings, on Mount Moriah, and the royal palace which overlooked it from the summit of Mount Zion half a mile to the south-west, as a great building enterprise, stood in the middle of an architectural desert 200 years wide. In the year 1015 B.C., when Solomon was ready to begin the temple, no building of great importance had been erected anywhere for more than a century, and no other one was erected afterward for more than a century. All the architects and artists who had been engaged upon buildings of international note were in their graves. In Chaldea no great building had been erected since the Assyrian conquest 250 years before, and none was erected afterwards until the time of Nabonassar, 250 years later. In Egypt, Amenophis, Rameses and Seti, the great builders, had been wrapped in their mummy-cloths for 400 years. Building was a lost art in the Nile valley when Solomon married Pharaoh's daughter, and remained a lost art for 600 years longer, to the time of the Ptolemies. Tiglath Pileser, the great Assyrian builder and warrior, had been dead for nearly a century, and no subsequent Assyrian ruler was a patron of architecture until Asshurnazirpal came to the throne, 120 years later. Hellenic art was in its infancy, and no great building had yet planted its feet in Greek soil. The Hittites never built much, and Troy was burned and forgotten. Building on a grand scale anywhere had not been practised during the lifetime of the generation that built the temple, nor for two generations before.

Solomon s temple was one of the richest and most elaborate structures ever built, and the enterprise, of which the temple itself was but a small part, was one of the most costly and extensive ever undertaken. In the absence of builders and building genius, how was it erected?

A hundred miles to the north of Jerusalem, on the Mediterranean coast, lay the city of Tyre, then the capital of Phœnicia. The Phœnicians, being a commercial and not a military people, were the privileged messengers of intercourse between all the nations of antiquity. For 600 years they had controlled the carrying trade of the world. They were engaged in art for gain.

When declining civilisation in Egypt refused longer to encourage the building and decorative arts, the Phœnician was there to collect all that was precious and beautiful and carry it away to his home on the Mediterranean. When civilisation in Chaldea was tottering in the decrepitude of old age, true to his interests, the Phœnician was at hand to collect and copy all that was valuable and store it up in Arvaad and Sidon and Tyre. When the arts of Assyria were blighted by the lack of royal favour, ready at hand was the ubiquitous Phœnician to buy and remove all that he deemed useful or saleable. The Phœnician himself was at that time the leader in glyptic art, and in all the products of the wheel, the furnace, the anvil and the loom. Phœnicia was the art storehouse of the world. To Phœnicia, to Tyre, Solomon went for the architect, the artists and the artisans who designed, built and decorated the temple.

It has been said that Greek art was the crystallisation of all that preceded, but Phœnician art was the sum of all previous work, and supplied the raw material out of which Greek art was produced. Solomon's temple was the masterpiece of Phœnician art. It stood for more than 400 years as the most renowned building known to those who furnished the lines for Classic architecture—in fact, the only great building that could be visited by them. It was the illustration of all that the world had done. It was the realisation of the pictures brought to them by the Phœnicians of the great works of high antiquity. It was the object-lesson for the architects of Greece.

It was thus that the Hebrews indirectly were instrumental in exercising a wide influence upon future architecture. The Phœnicians would never have built such a structure for themselves, and they never did for anyone else.

There were great buildings in Egypt then in existence, but the valley of the Nile was a sealed book to the Greek until the days of Psammetichus, but at that time the lines of Greek architecture were formed never to be revised. The Assyrian empire was not destroyed until the development of Greek architecture had begun, but to the Greek Nineveh was a myth. The second Chaldean empire remained until the days of archaic Greek, but Babylon was buried and forgotten before any communication occurred between Hellas and Mesopotamia that could influence Greek art. Chipiez says that "the motives and the models upon which Greek art is founded were created in the valley of the Nile and the Euphrates." The work of and the intercourse with the Phœnicians are the means by which those motives and models were transported from the place of their origin to become the fountain of Classic art. From Zion and Moriah flowed the waters of that fountain which carried down to the generations of the future the wealth of art which the civilisations of the past had produced. It was here that there was collected and preserved for reference those volumes of artistic thought which 5,000 years had written, and which fired the inimitable genius of the Greek and placed in his hands the means which enabled him to decorate the brow of art with a diadem that has been the admiration of the world since the time when Ictinus drew and Phidias wrought in the golden days of Pericles.

It is impossible for us to determine the full measure of the influence of Solomon's temple upon the art of surrounding countries, because of the uncertainty which conceals from us many of the points in its form and detail. To the architects of all nations it remained a profound mystery for 2,400 years. Elaborate and costly as it was, if any description of it was written during the 400 years of its existence it has not come down to us. The earliest connected writing we have upon the subject is the vision of Ezekiel, written in Babylon twenty-five years after the temple was destroyed. If even that was intended to describe the temple, which is doubtful, and being written so long afterwards, by a man who was not an architect, it is imperfect and indefinite. The description in the Book of Kings is only a compilation or stringing together of fragmentary references to the temple found in Jewish literature which survived the seventy years of captivity. They were evidently not put in their present order by any one who had ever seen the temple. The description in the Book of Chronicles, and also the writings of Josephus and others, are of the same character, and have the further difficulty of apparently getting the description of the temple of Solomon mixed with that of Zerubbabel. Except for the archæological discoveries of recent years, all these descriptions would be incapable of interpretation. Even with these much is left to be the subject of conjecture.

In the study of the manner in which the temple served to influence later work, several interesting questions arise which perhaps are not too far removed from the subject of this paper to be mentioned—questions as to where certain features of it and of succeeding work originated. Let me ask a question: When and where did the Greek form of a roof originate? A roof sloping down at the two sides, the end walls being extended up to fill the triangle between the square of the building and the roof. We may search the Nile valley in vain for any suggestion of such a roof. Neither do the countries of Assyria and Chaldea furnish even an inscription showing such a roof until after Solomon's temple was built. The earliest trace of such a roof in Greece only goes back to the seventh century, B.C., although it is probable that it was used there a century earlier, because of the fact that the earliest examples that have come down to us are thoroughly Greek and exhibit no foreign influence. But this form of roof was not used in the primitive Greek buildings.

Turning to ancient Phœnicia we find it in use there from the most remote ages. It was probably the form used upon Solomon's temple, and from there it passed to Greek architecture.

Again, in what manner did the fluted column pass from the place of its origin to Greece and succeed the awkward posts that had previously been in use there? Fluted columns were used in the palace of King Solomon, and from there became the heritage of Greek architecture and of Classic art.

Where did the peculiar roof finish of Greek buildings have its origin? It is not natural to marble, of which the later buildings were erected, nor yet of wood, which preceded it. In fact, a different style of roof covering was used on the megarons of primitive Greece. It evidently came from the brass plates which covered Solomon's temple; in fact, I am not sure but brass was used to cover some of the most important Greek buildings, and that without much change from the Phœnician pattern. It is the only roof I can imagine which would have lasted so long in that climate.

Again, where did the idea of the two brazen pillars come from?—a feature of the temple more written about than any her single detail which the entire field of architecture contains. splendid a feature must have had some suggestion in earlier ildings. The architecture of the Nile and the Euphrates e silent upon the subject, and the sacred writers leave the atter subject to inquiry whether these pillars were con- uctive, decorative or symbolic. Turning again to the œnicians we find that in their ancient chapels it was stomary to place pillars of this character at the sides of the trance. Their purpose was to denote that the building was voted to sacred use. These pillars, Jachin and Boaz, were obably in keeping with this idea. They were meant to nounce that this building was devoted to sacred uses.

If this temple exerted a wide influence over the work of the 'est, it also had a bearing upon future architecture in the ast. It must be remembered that most of the great royal laces and temples of Assyria were built at a time when olomon's temple was the most renowned building known. doubtless served somewhat as a model and a motive for the laces of the later Assyrian kings, and also carried its influence the restoration of Babylon after its destruction by Senna- erib. Furthermore, it was a model for the Persians, and ercised much influence upon the details of their work. For hile it is true that the temple was destroyed prior to the ptivity, yet its glory had spread so far that it was well known the Persian architects.

Of the three temples which successively occupied the summit Mount Moriah for more than a thousand years, that of olomon was very much the most decided in its influence. It as succeeded by the temple of Zerubbabel, which was also a otable building, and stood for more than four hundred years. too was of Phœnician origin; simple, larger than the first one, ad probably without so much adjacent work. The renown of e first temple was still so great after its destruction that Cyrus, hen he came to send Zerubbabel back to rebuild the temple, arning that the first one had been designed by a Phœnician, structed Zerubbabel to go to Phœnicia for his plans and ecifications, and thus Senabassar, the Phœnician, became e architect of the second temple, as Hiram, the Phœnician, ad been of the first temple, although 500 years elapsed etween the two events. It will thus be seen that the Israelites, hose hand and brain did not produce these two buildings, were rough them, especially the first, instrumental in exercising a owerful influence upon the architecture of the succeeding ges.

The third temple seems to have exercised but little influence, lthough an elegant building. Its history was much shorter, nd it was built after Greek and Roman art, which were already nown to all nations.

Thus closes the first chapter of Jewish influence upon the rchitecture of the world; but half of the story is not yet told. 'he second era of influence was as peculiar as the first, but rought in an entirely different way. When the third temple 'as razed to the ground by the Romans in the year 70, and ewish power was finally destroyed and the Jewish people were riven from the country they had occupied for 1,500 years and cattered to the four corners of the earth, to all but those gifted 'ith the power of prophecy it seemed that Jewish influence pon the architecture of the world, either directly or indirectly, 'as at an end. But it was not to be so. Out of the sepulchre f Jewish nationality there shone a light that was to become a eacon to all the nations of the future—a light that was to cast he shadows of future architecture in a new direction—a light round which the literature, the chronology and the philosophy f future ages were to gather. Out of the life and teaching of Jewish carpenter there was to proceed a wealth of vitality 'hich would set new models before the architects of future ges and put into their hands motives of decoration hitherto nknown. As impotent as was the early life of this descendant f Jewish kings was the early influence upon the world's art 'hich emanated from his teachings. Rome moved on in her ajesty and her power for 200 years, but every hour that Rome aught herself to do what she ought not to do was sixty minutes owards her downfall. In the twilight of a national sunset eldom rivalled in brilliancy, there shone an evening star that lluminated the cradle of the new nations born around the Roman hearthstone, and whose swaddling clothes were the elics of Roman greatness. When Rome slept with the dead mpires of the past, she was robed in a shroud of Classic art. As the new nations went forth to forget her literature and ignore er philosophy in the interest of a civilisation unlike any that ad preceded, so Classic architecture was succeeded by uildings whose lines were drawn to sing a new song to suc- eeding generations.

The light which radiated from the halo of that Son of David egan to shine upon the pathway of architectural design, and the fulness of time led the feet of the designer to the portal f the splendid cathedrals of the Middle Ages, where he could ear the symphony of pillar and pinnacle, cusp and arch, raceried stone and tinted glass, and time the movement of his encil to that harmony of freedom and hope which is manifested n the forms and motives of subsequent art.

It is telling less than the whole truth to say that the influence upon the architecture of the world that came through the life and teachings of the humble Jewish carpenter is greater than that exercised through the work or agency of any other person that ever lived. Although this influence wrought but little change in the land it came from, and wrought in a way that was without a model, yet in estimating the influences which have made the architecture of the world what it is, and in giving credit to the different races and nations of people for their share in these influences, it is only fair to remember that Jesus of Nazareth was a Jew.

ARCHITECTURAL ACOUSTICS.—VII.*

In the present paper it is the purpose to show the application of the preceding analysis and data, taking as an example the design of the new Boston Music Hall now under construction, Messrs. McKim, Mead & White, architects.

In the introductory paper the general problem of architectural acoustics was shown to be a fairly complicated one, and to involve in its solution considerations of loudness, of interference, of resonance, and of reverberation. All these points received consideration while the hall was being designed, but it is proposed to discuss here only the case of reverberation. In this respect a music hall is peculiarly interesting. In a theatre for dramatic performances where the music is of entirely subordinate importance, it is desirable to reduce the reverberation to the lowest possible value in all ways not inimical to loudness; but in a music hall, concert-room or opera house this is decidedly not the case. To reduce the reverberation in a hall to a minimum, or to make the conditions such that it is very great, may in certain cases present practical difficulties to the architect—theoretically it presents none. To adjust in the original design the reverberation of a hall to a particular and approved value requires a study of conditions, of materials and of arrangement for which it has been the object of the preceding papers to prepare.

It is not at all difficult to show *à priori* that in a hall for orchestral music the reverberation should neither be very great nor, on the other hand, extremely small. However, in this matter it was not necessary to rely on theoretical considerations. Mr. Gericke, the conductor of the Boston Symphony Orchestra, made the statement that an orchestra—meaning by this a symphony orchestra—is never heard to the best advantage in a theatre, that the sound seems oppressed and that a certain amount of reverberation is necessary. An examination of all the available plans of the halls cited as more or less satisfactory models in the preliminary discussion of the plans for the new hall showed that they were such as to give greater reverberation than the ordinary theatre style of construction. While several plans were thus cursorily examined the real discussion was based on only two buildings—the present Boston Music Hall and the Leipzig Gewandhaus; one was familiar to all and immediately accessible, the other familiar to a number of those in consultation, and its plans in great detail were to be found in "Das neue Gewandhaus in Leipzig," by Paul Gropius and H. Schmieden. It should perhaps be immediately added that neither hall served as a model architecturally, but that both were used rather as definitions and starting-points on the acoustical side of the discussion. The old Music Hall was not a desirable model in every respect, even acoustically; and the Leipzig Gewandhaus, having a seating capacity about that of Sanders Theatre, 1,500, was so small as to be debarred from serving directly, for that if for no other reason.

The history of the new hall is about as follows:—A number of years ago, when the subject was first agitated, Mr. McKim prepared plans and a model along Classical lines of a most attractive auditorium, and afterward, at Mr. Higginson's instance, visited Europe for the purpose of consulting with musical and scientific authorities in France and Germany. But the Greek theatre as a music hall was an untried experiment, and because untried was regarded as of uncertain merits for the purpose by the conductors consulted by Mr. Higginson and Mr. McKim. It was therefore abandoned. Ten years later, when the project was again revived, the conventional rectangular form was adopted. The first plan of the building committee was to follow the general proportions and arrangements of the Leipzig Gewandhaus, so enlarged as to increase its seating capacity about 70 per cent., thus making it a little more than equal to the old hall. At this stage calculation was first applied.

The often repeated statement that a copy of an auditorium does not necessarily possess the same acoustical qualities is not justified, and invests the subject with an unwarranted mysticism. The fact is that exact copies have rarely been made, and can hardly be expected. The constant changes and improvements in the materials used for interior construction in the line of better fireproofing—wire lath, or the application of the plaster directly to tile walls—have led to the taking of liberties in what were perhaps regarded as non-essentials, but which resulted, as shown by the preceding tables, in a changed absorbing power of the walls. Our increasing demands in regard to heat and ventilation, the restriction upon the dimensions enforced by location, the changes in size imposed by the demands for seating capacity, have prevented in different degrees copies from being copies and models from successfully serving as models.

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* A paper by Professor Wallace C. Sabine, Harvard University.

So different have been the results under what was thought to be safe guidance—but a guidance imperfectly followed—that the belief has become current that the whole subject is beyond control. Had the new music hall been enlarged from the Leipzig Gewandhaus to increase the seating capacity 70 per cent., which, proportions being preserved, would have doubled the volume, and then built, as it is being built, according to the most modern methods of fireproof construction, the result, unfortunately, would have been to confirm the belief. No mistake is more easy to make than that of copying an auditorium, but in different materials or on a different scale, in the expectation that the result will be the same. Every departure must be compensated for by some other—a change in material by a change in the size or distribution of the audience, or perhaps by a partially compensating change in the material used in some other part of the hall—a change in size by a change in the proportions or shape. For moderate departures from the model such compensation can be made, and the model will serve well as a guide to a first approximation. When the departure is great the approved auditorium, unless discriminately used, is liable to be a treacherous guide. In this case the departure was necessarily great.

The comparison of halls should be based on the duration of the residual sound after the cessation of a source that has produced over the hall some standard average intensity of sound—say one million times the minimum audible intensity 1,000,000i'. The means for this calculation was furnished in a former paper; the equation is

$$T=\frac{KV}{a}$$

where T is the duration of the audible reverberation after standard initial intensity, K is the corrected constant, 0·164, V the volume of the room, and a the total absorbing power of walls, drapery, furniture and audience. The values of V and a for the three halls under comparison are determined as follows:—

*Dimensions of the Three Halls in Metres.**

	Leipzig Gewandhaus.	Boston Music Hall, old.	Boston Music Hall, new.
Length	(38)	39·2	(39·5)
Breadth	19	23·5	22·8
Height	15·5	20·0	17·9
Volume	(11,200)	18,400	(16,200)

The length given for the Leipzig Gewandhaus, 38 metres, is measured from the organ front to the architecturally principal wall in the rear. On the floor and by boxes in the balconies the seats extend back 3 metres further, making the total length of the hall, exclusive of the organ niche, 41 metres. This increases the volume of the hall about 200 cubic metres, making the total volume 11,400 cubic metres.

The height given for the new Boston Music Hall, 17·9, is the average height from the sloping floor. The length is measured on the floor of the main part of the hall; above the second gallery it extends back 2·74 metres, giving an additional volume of 580 cubic metres. The stage, instead of being out in the room, is in a contracted recess having a depth of 7·9 metres, a breadth, front and back, of 18·3 and 13 respectively, and a height, front and back, of 13·4 and 10 respectively, with a volume of 1,500 cubic metres. The heigh

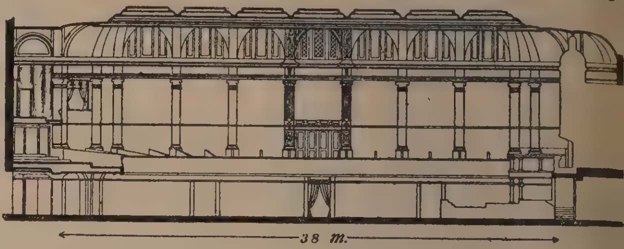

FIGURE 20.—THE LEIPZIG GEWANDHAUS.

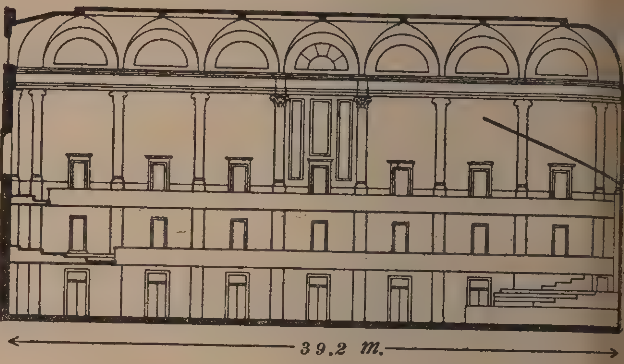

FIGURE 21.—THE OLD BOSTON MUSIC HALL.

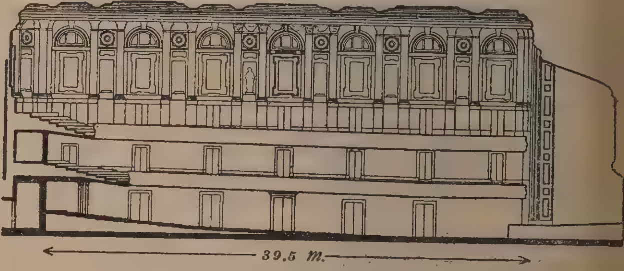

FIGURE 22.—THE NEW BOSTON MUSIC HALL.

of the stage recess is determined by the absolute requirements of the large organ to be built by Mr. Geo. S. Hutchings. This organ will extend across the whole breadth of the stage. The total volume of the new Boston Music Hall is therefore 18,300 cubic metres.

In the following table of materials in the three halls no distinction is made between plaster on wire lath and plaster on wood lath, the experiments recorded in the preceding paper having shown no certain difference in absorbing power. The areas of wall surface are expressed in square metres. The number of persons in the audience is reckoned from the number of seats, no account being taken of standing room.

Absorbing Material.

	Leipzig Gewandhaus.	Boston Music Hall, old.	Boston Music Hall, new.
Plaster on lath	2,206	3,030	1,040
Plaster on tile	0	0	1,830
Glass	17	55	22
Wood	235	771	625
Drapery	80	4	0
Audience—			
On floor	990	1,251	1,466
On first balcony	494	680	600
On second balcony	33	460	507
Total audience	1,517	2,391	2,579
Orchestra	80	80	80

The drapery in the Leipzig Gewandhaus will be rated as shelia and in the old Music Hall as cretonne, to which it approximates in each case. It is an almost needless refinement to rate differently the orchestra and the audience, merely because the members of the orchestra sit more or less clear of each other, but for the sake of a certain formal completeness it will be done. For the above materials the coefficients, taken from the preceding paper, are as follows:—

Coefficients of Absorption.

Plaster on lath		0·033
Plaster on tile		0·025
Glass		0·027
Wood		0·061
Drapery	shelia	0·23
	cretonne	0·15
Audience per person		0·44
Orchestra per man		0·48

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* *Dimensions of the Three Halls in Feet.*

	Leipzig Gewandhaus.	Boston Music Hall, old.	Boston Music Hall, new.
Length	(124)	129	(130)
Breadth	62	77	70
Height	52	66	59
Volume	(400,000)	657,000	(578,000)

The length given for the Leipzig Gewandhaus, 124 feet, is measured from the organ front to the architecturally principal wall in the rear. On the floor and by boxes in the balconies the seats extend back 10 feet further, making the total length of the hall, exclusive of the organ niche, 134 feet. This increases the volume by 7,000 cubic feet, making the total volume 407,000 cubic feet.

The height given for the new hall, 59 feet, is the average height from the sloping floors. The length is measured on the floor of the main part of the hall; above the second gallery it extends back 9 feet, giving an additional volume of 2,000 cubic feet. The stage, instead of being out in the room, is in a contracted recess having a depth of 26 feet, a breadth, front and back, of 60 feet and 45 feet respectively, and a height, front and back, of 44 feet and 35 feet respectively, with a volume of 5,400 cubic feet. The total volume of the new hall is therefore 634,000 cubic feet.

In the following table is entered the total absorbing power ontributed by each of these elements. As this is the first xample of such calculation, all the elements will be shown, lthough it will then be immediately evident that some are of vholly negligible magnitude :—

Absorbing Power.

	Leipzig Gewandhaus.	Boston Music Hall, old.	Boston Music Hall, new.
Plaster on lath . . .	73·	100·	34·
Plaster on tile . . .	0·	0·	46·
Glass	0·4	1·5	0·6
Wood	14·	47·	38·
Drapery	18·	0·6	0·
Audience . . .	667·	1,052·	1,135·
Orchestra . . .	38·	38·	38·
Total = *a* . .	810·	1,239·	1,292·

V and a being determined for each of the three halls, the uration of the residual sound after standard initial intensity an be calculated by the formula

$$T=\frac{KV}{a},$$

T being the duration of the residual sound in seconds. The esults are as follows :—

Leipzig Gewandhaus	2·30
Old Boston Music Hall	2·44
New Boston Music Hall	2·31

In other words, the new hall, although having a seating apacity for over 1,000 more than the Gewandhaus and nearly oo more than the old hall, will have a reverberation between he two, and nearer that of the Gewandhaus than that of the ld hall.

It is interesting to contrast this with the result that would ave been obtained had the plan been followed of reproducing n an enlarged scale the Gewandhaus. Assuming perfect eproduction of all proportions with like materials, the volume would have been 25,300 cubic metres and the absorbing power ,370, resulting in the value $T=3{\cdot}02$. This would have iffered from the chosen result by an amount that would have een strikingly evident.

The new Boston Music Hall is, therefore, not a copy of the Gewandhaus, but has attained its ends in a very different way.

A few general considerations, not directly connected with everberation, may be of interest. The three halls are of early the same length on the floor, but in the old hall and in he Gewandhaus the platform for the orchestra is out in the all, and the galleries extend along both sides of it ; while in he new hall the orchestra is not out in the main body f the room, and for this reason is slightly further from he rear of the hall ; but this is more than compensated or in respect to loudness by the orchestra being in a omewhat contracted stage recess, from the side walls of vhich the reflection is better because they are nearer and ot occupied by an audience. Also it may be noted that the ew hall is not so high as the old and is not so broad.

Thus is opened up the question of loudness, and this has een solved to a first approximation for the case of sustained ones. But as the series of papers now concluded is devoted o the question of reverberation, this new problem must be eserved for a subsequent discussion.

STONEHAM, NEAR SOUTHAMPTON.*

In Domesday it is mentioned that "The bishop holds Stanham, and it is for the clothing of the monks." There are wo places of more than ordinary interest in the parish from he ancient associations, viz. Mansbridge, which was the name lso of one of the hundreds of the county, doubtless from the neeting-place being at the bridge. This bridge was near the xtreme limit of the flow of the tidal water, and was situated earer the Swan inn than the present bridge. The line of the ncient road on both sides of the stream shows where the ridge was situated. A chapel is mentioned as existing at Mansbridge in the fourteenth century. The other place of ingular interest was Swatheling, in ancient time an extra-parochial place. Swatheling appears in Hampshire history as arly as A.D. 932 in a grant of King Æthelstan. The name is vritten Swathelingford, and occurs in the boundaries of Æthelstan's charter relating to land at North Stoneham.

The ancient name for this part of South Stoneham was vritten Swatheling or Swathelinge in every record I have seen rom A D. 932 down to comparatively modern time. The recent lteration in the spelling of the name by the introduction of y is quite divergent from the ancient orthography. Swatheling was owned by the de Berenger family in the fourteenth century. One of these, Ingelram de Berenger, took the side of the Earl of Kent in the Civil War of the time of Edward II., and appears to have suffered loss with that unfortunate Earl's failure. In the fifth year Edward III., *i.e.* soon after the young king assumed the government and got rid of Mortimer, a commission was appointed to certify the king touching a petition of Ingelram de Berenger, whose goods, &c., had been ordered by the king to be restored, some persons having, after the Earl's cause failed, and he had been executed at Winchester, taken away de Berenger's horses, cut down his trees, and carried away his property at Swatheling and other places. South Stoneham contained a number of ancient tithings, viz. the tithings of Portswood, Pollack (or South Stoneham), Bittern, Allington, Barton, Peverel, Eastleigh and Shamblehurst. Of these in Hundred of Waltham were Bittern, and Stoneham or Pollack, and in Mansbridge Hundred were Allington, Barton Peverel, Eastleigh and Shamblehurst. Those in Waltham Hundred belonged to the bishop. The others were granted from time to time by the Crown, and appear in the State records. There is an interesting record concerning Bittern and South Stoneham in the 12th Edward I., *i.e.* 1383. It is a grant recorded in the Patent Rolls to J., Bishop of Winchester, that his men of the tithings of his manor of Bittern, Falelie, Ore and Stanham, which formerly answered with the Hundred of Sweyneston, shall henceforth answer with his Hundred of Waltham. It must have been highly inconvenient for the bishop's tenants here to have attended the Hundred Court held at Sweyneston, I.W., the bishop's manor, which they certainly had to attend. This grant of the thirteenth century has ever since affected the political topography of these manors, which as you may see on the 6-inch Ordnance maps are still included in the Hundred of Bishop's Waltham. Of the tithing in this parish the Nomina Villarum of 9 Edward II., A.D. 1316, states that Allington was held as one manor by Robert Helyon and William Wodeley, Shamblehurst, by the Earl of Oxford (de Vere), Eastleigh by Walter de Wintershull, and Barton by Andrew Peverell. In the taxation of 1334 these tithings were assessed to pay as follows :—Allington, 65*s.* 3*d.* ; Townhill, or Shamblehurst, 59*s.* 8*d.* ; Eastley, 37*s.* 10*d.* ; Barton, 22*s.*

Bishop Wykeham's register contains some entries relating to South Stoneham, 1379-80, February 28, dated Southwark :—"Adam Mathou, priest, instituted to the vicarage of the church or chapel of St. Mary, Bishop's Stoneham, on the resignation of Henry Payn ; patron, Master Richard Coleshull, rector or precentor of St. Mary's, Southampton. On September 21, 1380, dated from Highclere, the Bishop instituted William de Castieforde, rector of St. Pancras, Winchester, to Bishop's Stoneham ; patron, the precentor of St. Mary's, Southampton, on exchange with Adam Mathou. On October 22, 1386, John Yonge, priest, was instituted to the vicarage of Stoneham Episcopi on the resignation of Master William Castleford—dated from Southwark. On December 31, 1399, dated from Waltham, Bishop Wykeham instituted Master Thomas Atte Wode, a vicar in the Collegiate Church of Bosenham, to the vicarage of South Stoneham on exchange with John Yunge ; patron, John Katene, rector or precentor of St. Mary's, Southampton."

The State Papers contain many references to Stoneham and its tythings, *e.g.* :—"Pardon at the supplication of William de Beauchamp to Henry Hermyte, of South Stoneham, a common disturber of the peace, highwayman and harbourer of felons, who sleeps by day and watches by night." (March 25, 1383, Calendar Patent Rolls.) This Henry Hermyte must have been an undesirable parishioner, and may have derived his name of "Hermyte" from his habit of retirement during the day. There is a curious entry relating to Mansbridge. The road and bridge occasionally got out of repair, and the repair of it had to be provided for somehow. "In Bishop Wykeham's time a grant of forty days' indulgence was made for those who subscribed to repair the highway at Mannesbrigge leading to Southampton." This is dated July 8, 1403. The grange of Shamblehurst, or Town Hill, had belonged to St. Denys Priory in the sixteenth century. At the Dissolution it was granted to Sir William Powlett. The State Papers temp. Henry VIII., supply us with the information that this grange of Shamblehurst was granted in fee (for 2,091*l.* 10*s.* 10*d.*) to Sir William Powlett, and that it had belonged to the suppressed priory of St. Denys. The Rev. Roger Turner was vicar of this parish about the time of the Restoration, and probably placed the Royal Arms, 1660, in the church. Certainly he preached a sermon on that event which was published at the time, copies of which still exist.

Early in the seventeenth century the Clerk family settled at South Stoneham. Afterwards the Dummer family, one of whom was Envoy to the Court of Hanover, temp. William III., and detected a conspiracy against the life of that king. The Sloane family was settled at South Stoneham in the middle of the 18th century. 1747.—William Sloane, of Chelsea, Portsmouth, and South Shoreham, nephew of the great Sir Hans Sloane, was Sheriff of Hants. Of Sir Hans Sloane's daughters, Sarah married George Stanley, of Paultons, near Romsey, and the other, Elizabeth, married Lord Cadogan. They were joint heiresses of the manor of Chelsea. Sir Hans Sloane, 1660-1753, was a physician and scientist, and was the author of a number of botanical, medical and other works. He was President of the College of Physicians, 1719-35; and President of the Royal Society 1727-41, succeeding Sir Isaac Newton. He purchased the manor of Chelsea in 1712, and founded the Botanic Garden for the Society of Apothecaries in 1721. Such names as Sloane Street and Square, Cadogan Square, Hans Place and Hans Road, in Chelsea, preserve Sir Hans Sloane's memory. It is the daughter of George and Sarah Stanley, and the granddaughter of Sir Hans Sloane, who is commemorated in the epitaph in Holy Rood Church, Southampton, on Miss Stanley. This epitaph was written by the eighteenth-century poet, James Thomson, who was a friend of the Sloane-Stanley family. The death of this young lady touched a chord in the poet's heart. The lines he composed on this sad event are some of his best.

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* A paper read by Mr. Shore at the visit of the Hampshire Field Club.

ARCHITECTURAL ASSOCIATION OF IRELAND.

THE above Society held the last meeting of the session on the 31st ult. at the Grosvenor Hotel, Westland Row, Dublin, the president, Mr. Geo. Sheridan, in the chair. Mr. W. J. M'Caughey was elected a new member. The reports of building construction and design classes were read, the prize winners in the latter class being Messrs. H. J. Lyons and Chas. Powell. A resolution was adopted expressing satisfaction at the well-merited honour of knighthood conferred upon Sir Thomas Drew. The result of the ballot for officers for the ensuing season was as follows:—President, Mr. F. Batchelor, F.R.I.B.A.; vice-presidents, Messrs. M. J. Tighe and C. H. Ashworth; committee, Messrs. H. Allberry, G. Sheridan, R. C. Orpen, J. Holloway, R. M. Butler, T. E. Hudman, H. J. Pentland, T. Coleman, L. O'Callaghan; hon. librarian, Mr. J. Geoghegan; hon. treasurer, Mr. J. H. Webb; hon. secretaries, Messrs. F. G. Hicks, E. W. Bradbury; hon. auditors, Messrs. W. Beckett, M. J. Buckley. A vote of thanks was passed to the outgoing secretary, Mr. H. Allberry.

The President read a valedictory address to the members, and reviewed the work of the past session. In every branch of the Association a record had been established, and the new members numbered 18. The total membership stood at 125. He strongly advised architectural students to obtain technical instruction whenever possible. When the new Dublin Technical Schools, Kevin Street, were opened there would be excellent opportunities of gaining such knowledge.

A vote of thanks to the outgoing President closed the proceedings.

NATIONAL PORTRAIT GALLERY.

THE trustees of the National Portrait Gallery have received from Mr. G. F. Watts, R.A., the portrait of the late Duke of Argyll, painted by Mr. Watts in 1860, which the trustees have accepted as part of Mr. Watts's original munificent gift to the nation.

The trustees have also accepted as gifts from the Earl of Northbrook the following two small portraits:—

Sir Francis Baring, founder of the great London house of Baring Brothers; painted on enamel by C. Muss after a painting by Sir Thomas Lawrence.

Francis Thornhill Baring, Baron Northbrook, Chancellor of the Exchequer; a sketch in oils by Sir George Hayter.

They have also accepted a small portrait in oils of George P. R. James, the novelist; painted and presented by Mr. Stephen Pearce.

The following portraits have also been recently acquired by purchase:—

John Abernethy, M.D., F.R.S., the well-known surgeon; drawn by G. Dance, R.A.

Mary Robinson, better known as "Perdita," actress and authoress: drawn by G. Dance, R A.

James Ley, first Earl of Marlborough, Chief Justice of the King's Bench, and in 1624 Lord High Treasurer; painter uncertain.

Sir Harry George Wakelyn Smith, G.C.B., Governor of Cape Colony and victor of Aliwal; cast from a bust by G. G. Adams.

Valentine Green, the eminent mezzotint engraver; painted by Lemuel F. Abbott.

Sir James Thornhill, painter; painted as a young man by himself.

Maria Clementina Sobieski, wife of Prince James Edward Stuart; painted probably by Trevisani, and purchased from a fund presented by the committee of the Stuart Exhibition in 1889.

THE EARLIEST REPRESENTATIVE ART.

THE carvings on bone and horn which were found in the caves of Le Moustier, Les Eyzies, &c., in the valley of the Vezières en Dordogne, are so remarkable that, in the absence of other witnesses of antiquity, we should have been constrained to attribute them to a much more recent period. Some geologists pretend to have found in the bones in the drift certain markings bearing signs of the hand of man, but these are so doubtful that no argument could be drawn from them. Here, however, it is quite otherwise. In the cave of La Madeleine was found a cylindrical piece of reindeer horn, bearing the well-executed carving of two fish, one at each side. Another piece of the same material bears the representation of an eel or snake, with two horses heads and a human figure. A still more interesting piece of art is a group of reindeer, in which a male animal is exhibited in the act of overthrowing two or three others. There is so much spirit in the design, so much skill and proportion in the outline, that we can hardly believe the source from which it comes, and are forced into the conclusion that the engraver of this group not only knew well what a reindeer was, but even was no novice in the art of representing that animal. A curious feature is here to be noticed. The feet of the animals that are standing erect are not drawn, but in one which is represented as lying on its back with its heels in the air, the hoofs are perfectly and accurately finished, as though, remarks M. Franks, this early artist had thought it would be less faithful to nature were he to show the feet, which were usually buried in the snow or herbage, except only in the case in which the hoofs were raised in the air. This interesting piece of work is on a portion of a reindeer horn. We will mention one more: it is a sketch of a mammoth, drawn with a good idea of the animal upon a piece of the tusk of the same beast. It seems to us evident that the primitive artist whose work has been thus wonderfully preserved to us had himself seen the living animal, and we know not how we could resist the testimony, even though it stood alone; but grouped with so much other evidence from other caves and from the drift we consider it all but conclusively proved that these huge beasts were still inhabitants of the forests of western Europe when man appeared upon the scene.

GENERAL.

A Decree was passed on Tuesday by Congregation at Oxford to provide the funds for certain additions to the buildings of the Ashmolean Museum and University Galleries, rendered necessary by the large additions to the Ashmolean collections under Dr. Fortnum's will. The cost of the proposed extension is estimated at 1,500*l*., towards which Brasenose College have offered a contribution of 500*l*.

The Late Mr. John Bolton, of Blackburn, registrar of the County Court, has left 1,000*l*. towards the addition of a tower or spire to St. James's Church in that town.

The Memorial to Sir George Grey is to take the form of a bust, by E. Onslow Ford, R.A., to be placed in the crypt of St. Paul's Cathedral, and a portrait, by Mr. von Herkomer, to be hung in the National Portrait Gallery.

The Parish Church of Yatton has obtained more notoriety from its truncated spire than from the general character of its architecture. The tower is now found to be in a dangerous condition, and will have to be taken down and rebuilt.

The Candidates for the membership of the Académie des Beaux-Arts, in succession to the late M. Falguière, are MM. Allar, Coutan, Hugues, Injalbert, Peynot, Puech, de Saint-Marceaux and Tony Noël.

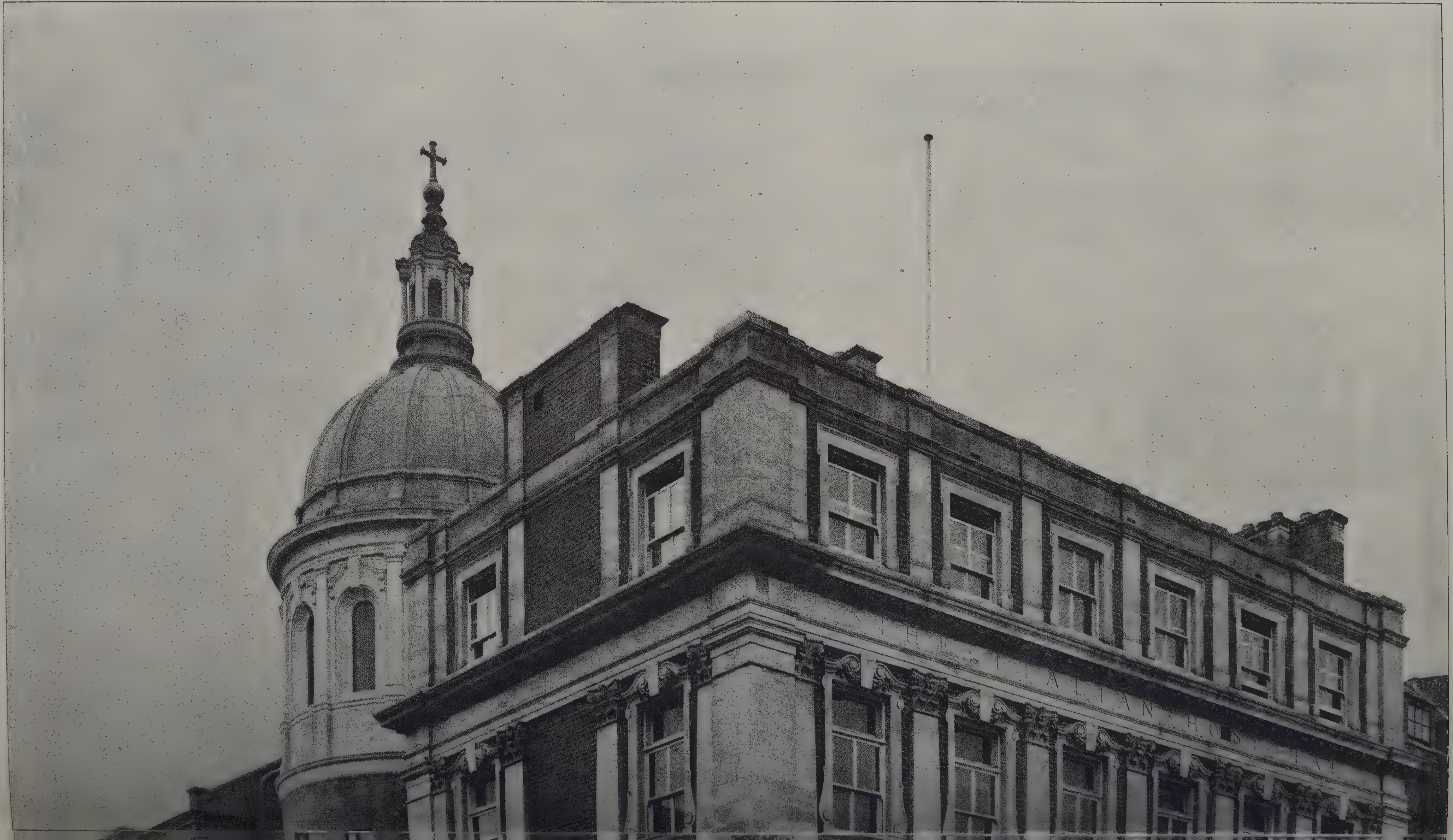
The Tower of Kirkby Stephen parish church was partly demolished by lightning during the storm on Monday.

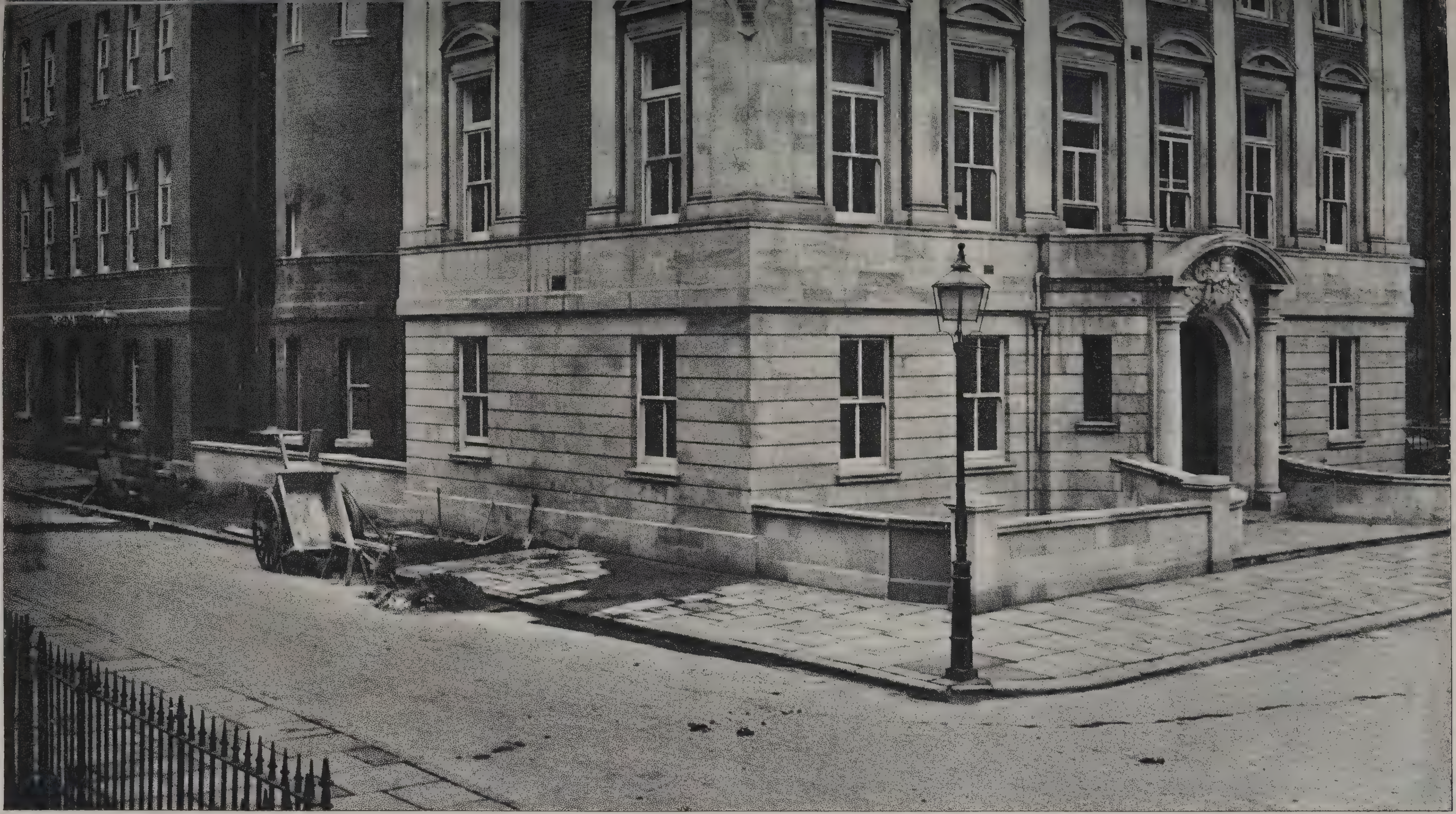
M. Bracquemond has been awarded the médaille d'honneur for etching at the Paris Exhibition. M. Achille Jacquet has obtained one for engraving.

The Corporation of Aberdeen will be the fortunate recipients of a valuable collection of pictures bequeathed by Mrs. Macdonald, of Kepplestone. The gift includes many original portraits of eminent artists.

A Roman Fort at Bush Hill Park, Middlesex, is on the point of being swept away by the builder. This finely-preserved piece of work covered 600 square yards, being oblong in shape. It was 120 yards long and 50 yards wide. The ditch was about 20 feet deep. Situated 10 miles from London, the fortification was double-sided to command the street—the great northern road to York, which lies a quarter of a mile due west.

St. John's Church, Kirkby Woodhouse, has been thoroughly renovated, the roof examined and repaired, the interior decorated, a new cloth for the holy table obtained and the building has now been reopened for public service.


ITALIAN HOSPITAL



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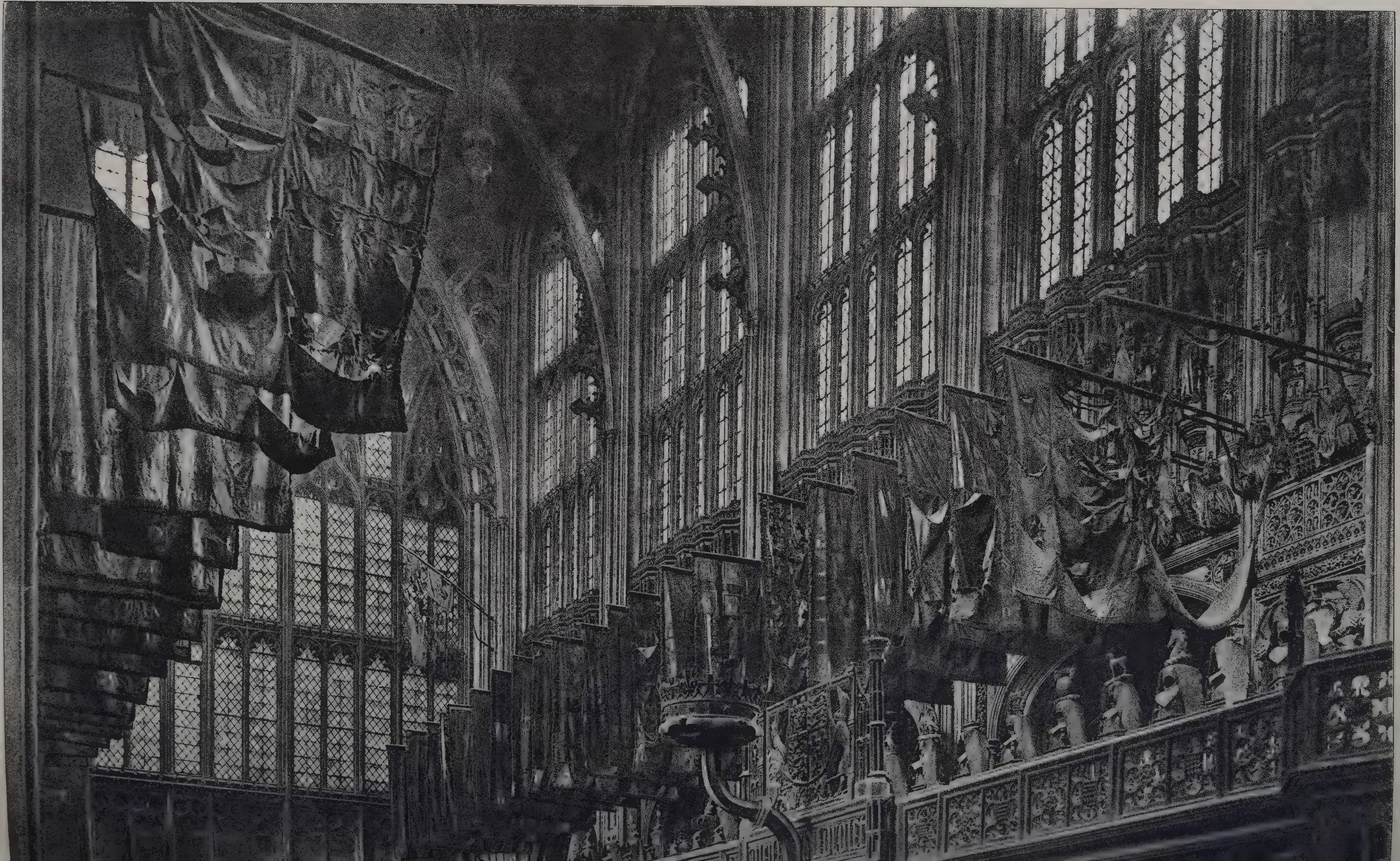
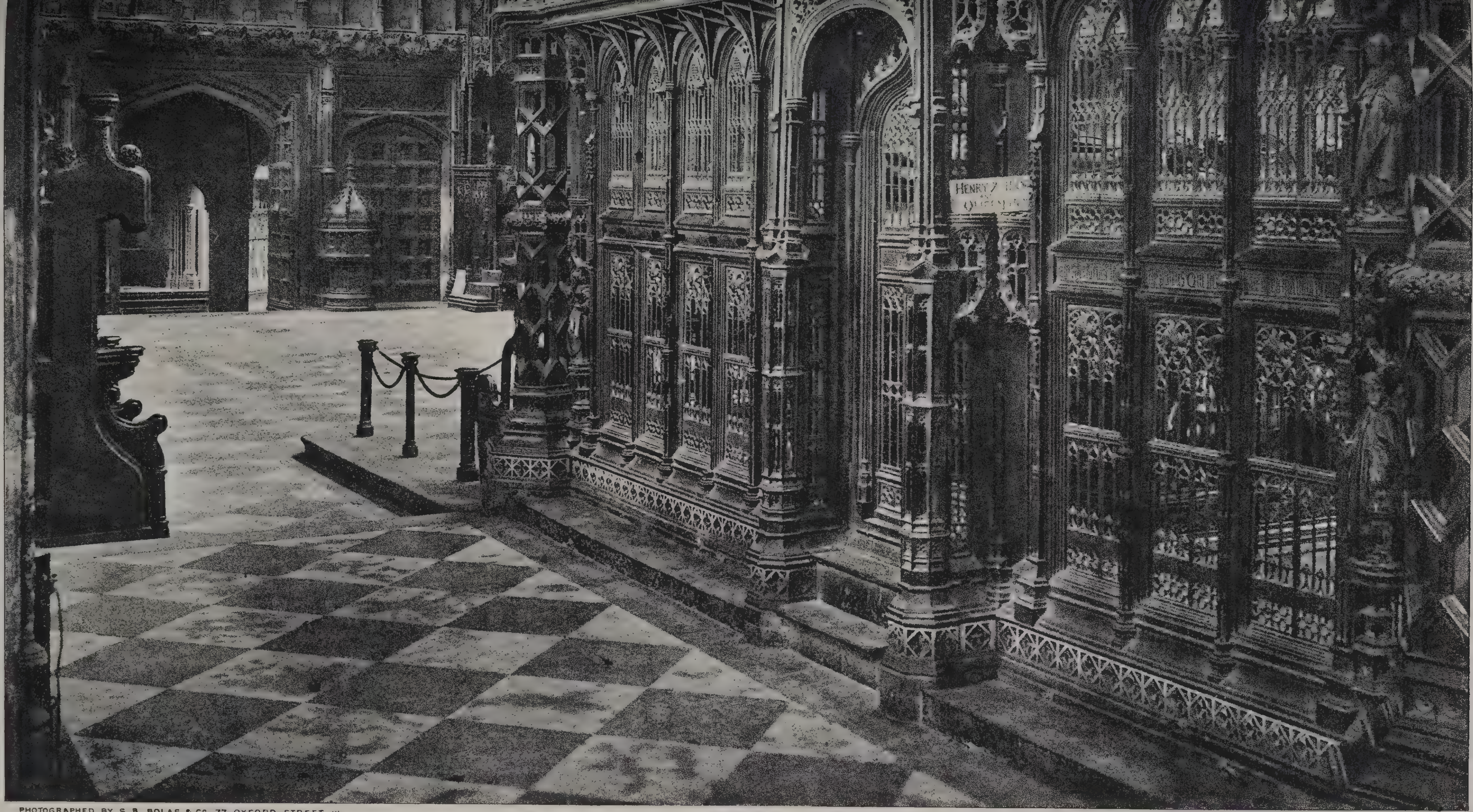
THE ITALIAN HOSPITAL, QUEEN'S SQUARE, LONDON.

T. W. CUTLER, Architect.





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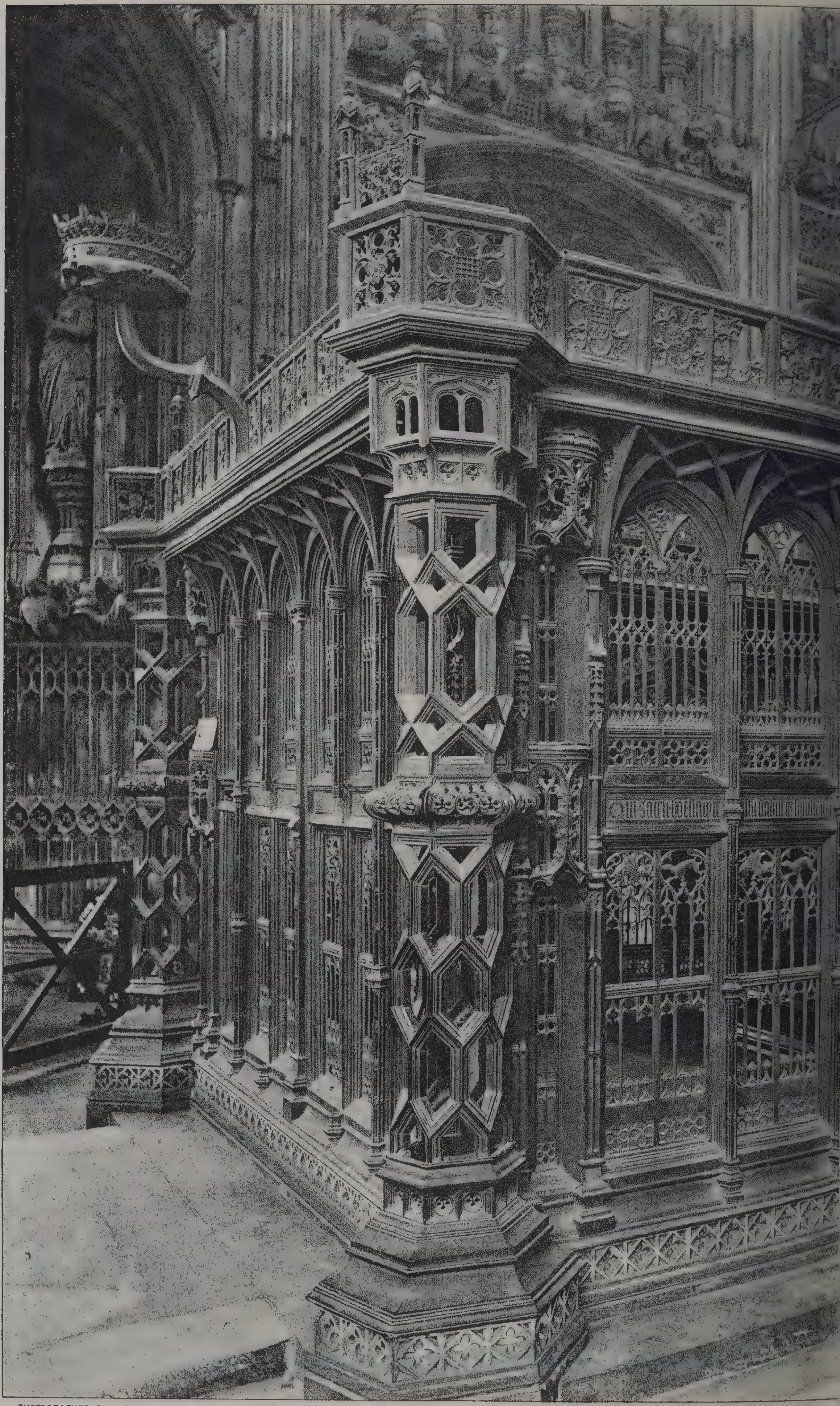
WESTMINSTER ABBEY, No. 65.
HENRY VII. CHAPEL AND TOMB.



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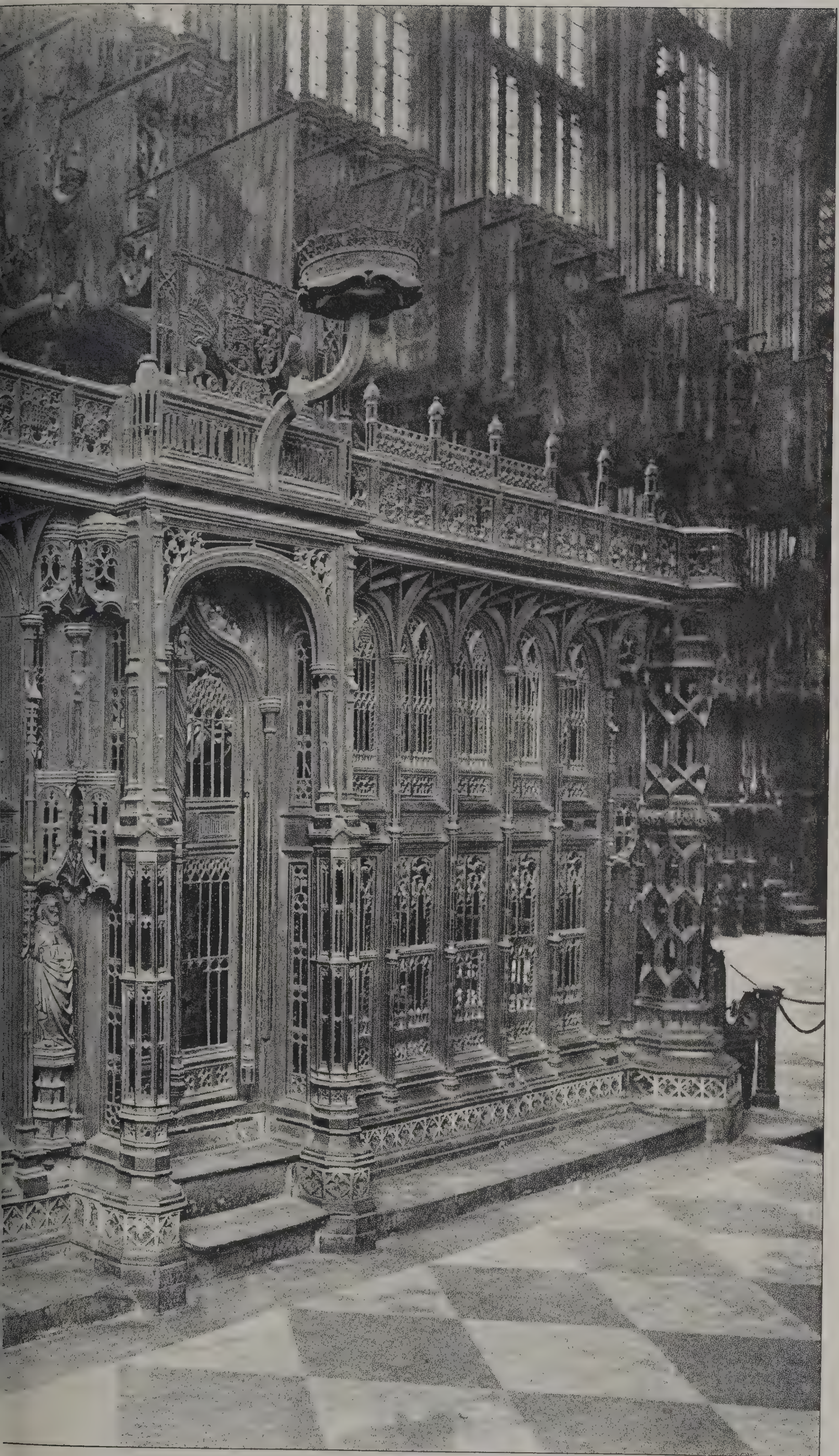
WESTMINSTER

HENRY

5th 1900.



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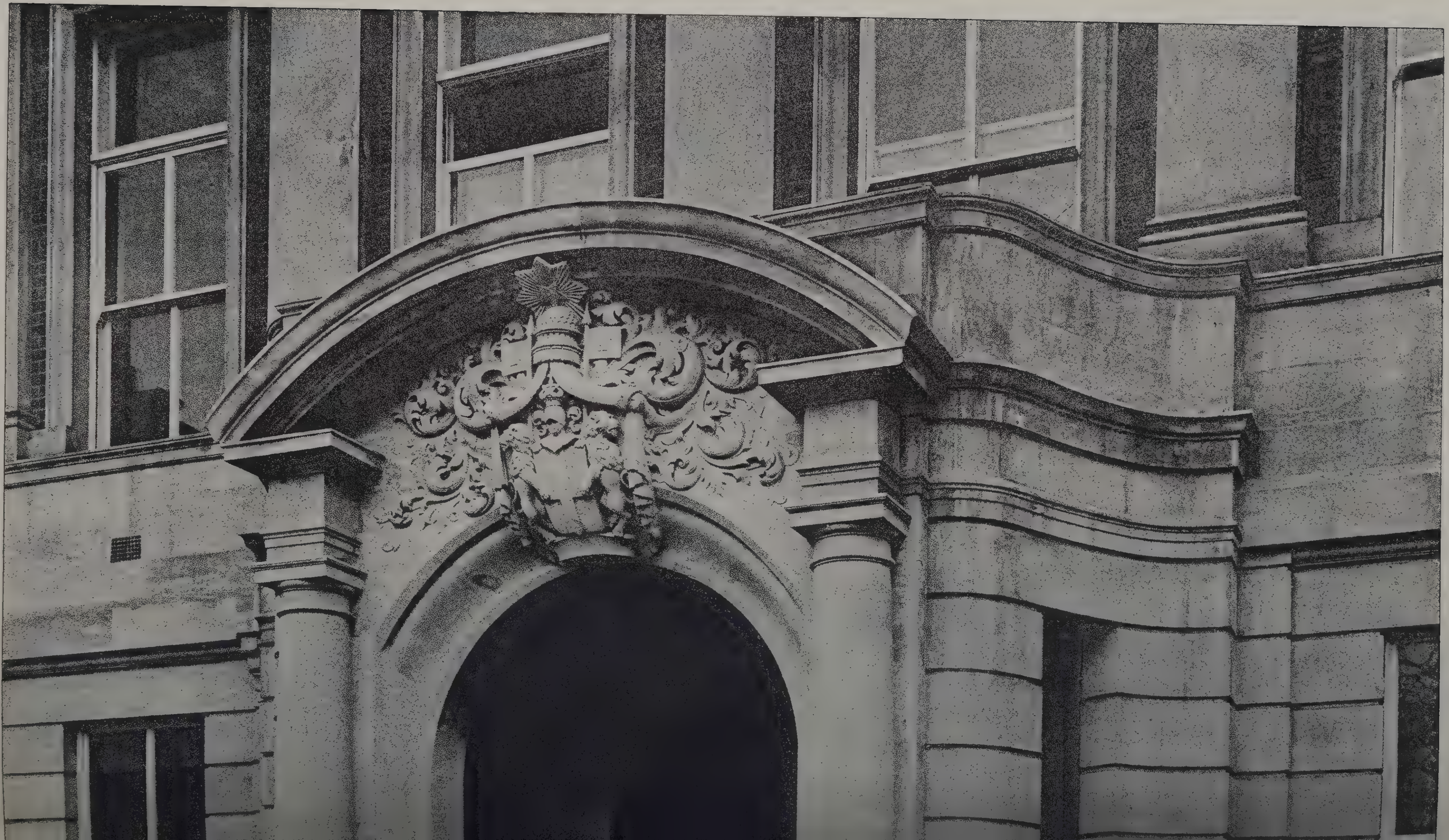

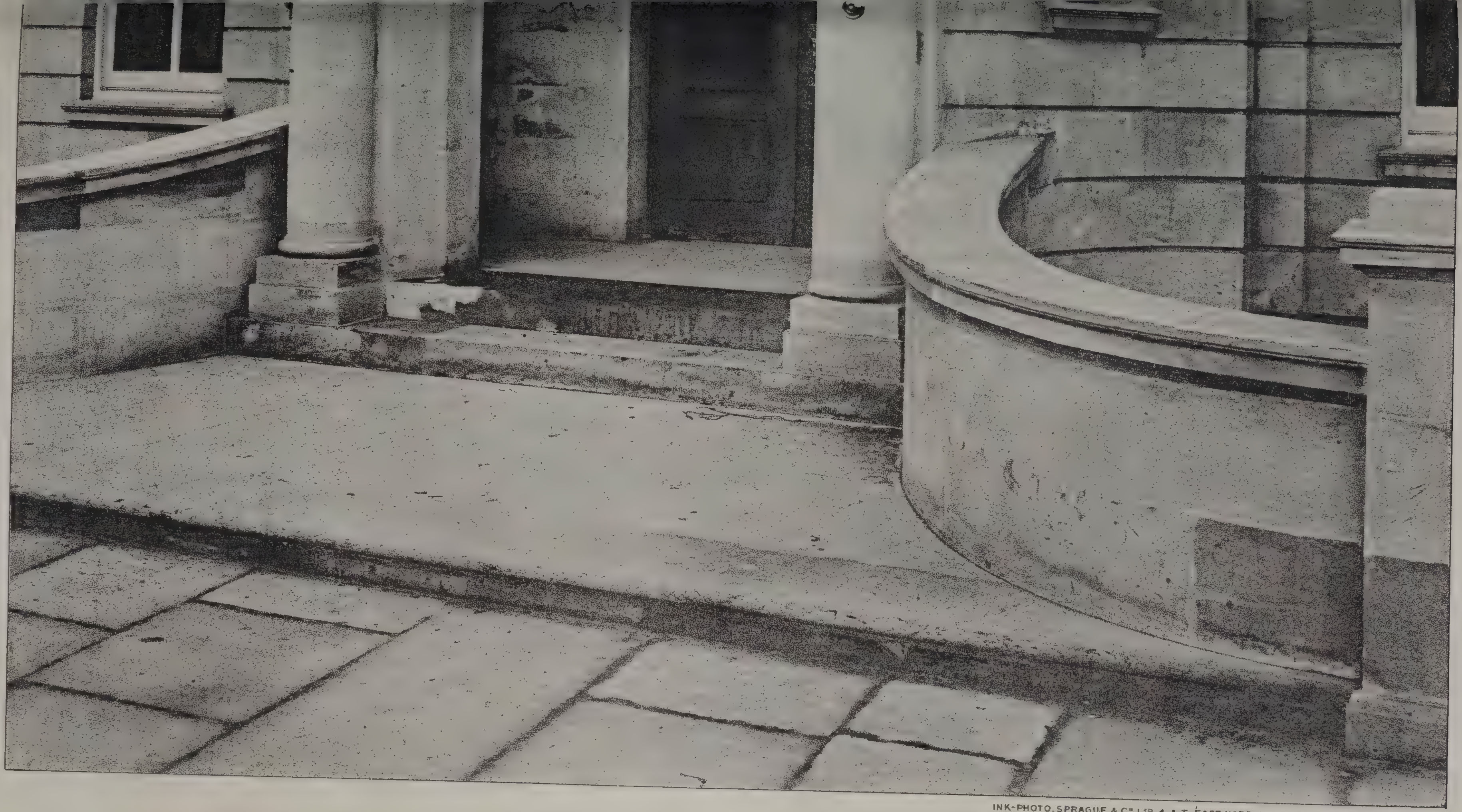

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THE ITALIAN HOSPITAL, QUEEN'S SQUARE, LONDON.
THE PORCH.
T. W. CUTLER, Architect.

The Architect.

THE WEEK.

In the limited competition for the new Sessions House, Old Bailey, Mr. E. W. Mountford has been successful. The assessor, Professor Aitchison, R.A., considered the plans as excellent, the façade simple, dignified, effective, and the staircase and halls as striking. The design was No. 4. The other competitors were Messrs. Baggallay, Belcher, Brydon, Florence and Hare.

Before the Select Committee of the House of Lords on Copyright, Mr. T. E. Scrutton, barrister on behalf of the Royal Academy, made certain suggestions for the amendment of the Copyright (Artistic) Bill. He first referred to clause 5, which deals with the relative rights of the copyright owner and the possessory owner in original paintings and drawings. The clause provides that the owner of the copyright in an artistic work who is not the owner of the work itself shall not exercise any privileges conferred by that right without the consent of the owner of the work itself. It was suggested that this provision should be confined to portraits, and that a proviso should be added at the end of the clause to the effect that, where the owner of the copyright has, with the consent of the owner of the work, reproduced the work, and the work afterwards becomes the property of another person who does not consent to reproduction, nothing in the section shall prejudice any rights or interests arising from the reproduction which are subsisting at the time consent is first refused. The witness next suggested the insertion of a new clause providing that, whenever a painting has been sold and the copyright in it remains in the painter, he shall not, without the consent in writing of the owner of the painting, be entitled by virtue of the copyright to make or cause to be made a replica; and if before selling the painting the painter has made or caused to be made a replica and afterwards sells the one, he shall not without the consent of the purchaser be entitled to sell, exhibit or part with the property in the other. For the purposes of this clause it was suggested that "replica" should mean a repetition of a painting by the painter himself or one caused by him to be executed in the same material, and of or so nearly of the same size as to render doubtful the identity of the original work.

It is to be hoped there will be no contest between the Government and the Trustees of the British Museum over the gold ornaments which were recently found in the north of Ireland and are now in the Museum. They cost the Trustees about 600*l.* By the law relating to treasure trove the jewellery belongs to the Crown, but as the official agents in Ireland are the constabulary, a body disliked by the people who usually find valuable objects, there is always a risk of examples of ancient goldsmith's work finding their way into private collections or foreign museums. The action of the Trustees saved the country from a loss and also aided many archæologists to be able to study a class of art which was inadequately represented in the Museum. The law officers consider the Trustees acted illegally, although they have the authority of other lawyers for maintaining that they acted within their rights. A case of the kind should not be considered solely by the aid of a slovenly-drawn Act of Parliament nor as a squabble between the officials of two museums. It would be more worthy of the Government to endeavour to look at it as it affects archæological science, and especially to consider it as having an international importance. The place where foreign archæologists expect to see British work in all its varieties is unquestionably in the British Museum. Examples which have been found in Scotland and in Ireland are sure to be studied by a larger number of enthusiasts in Bloomsbury than they could be at either Edinburgh or Dublin. The foreign students are able to look upon objects of the kind from more points of view than is possible with the majority of the students of this country. If votes on the subject could be taken in the principal cities of the Continent no doubt can be entertained that the majority would be in favour of allowing the treasure trove to remain where it is.

The succession to the seat in the Académie des Beaux-Arts occupied so worthily by the late M. Falguière, the sculptor, was vigorously contested on Saturday last. The candidates were MM. Allar, Coutan, Hugues, Injalbert, Peynot, Puech, Saint-Marceaux and Tony Noël. Some of them have gained renown. M. Saint-Marceaux is not entirely dependent on sculpture, but few amateurs have produced such remarkable works as the *Génie gardant le secret de la Tombe*, the *Arlequin* or the *Image de nos Destinées.* M. Puech is the sculptor of *La Muse d'André Chénier* and *La Sirène* in the Luxembourg. M. Injalbert is a great realist, and consequently his figures of workpeople are admirable. But after no less than eight attempts M. Coutan gained the coveted seat. He secured in the last ballot nineteen votes. M. Denys Puech came next with eighteen, and M. Allar found two supporters. The whole of the members of the Académie des Beaux-Arts took part in the election.

The position of sub-contractors under the Workmen's Compensation Act came again before the Court of Appeal on Saturday. The man who was killed was employed at Sheffield by Mr. Moore, a master joiner, who had taken a sub-contract under Messrs. Malthouse & Ward, builders, who were erecting eleven houses on their own land. They set up the scaffolding from which the victim fell. The action was taken against Messrs. Malthouse & Ward as well as against Mr. Moore. The Judge of the Sheffield County Court decided that the latter was an undertaker under the Act, and that the deceased man was his servant. Messrs. Malthouse & Ward were said to be building owners. A sum of 260*l.* was awarded as compensation. Mr. Moore appealed. Their Lordships decided that the case turned on a question of fact which the County Court judge was capable of determining, and as he had decided that a substantial part of the construction was undertaken by Mr. Moore, he must be considered as an undertaker. The case was therefore dismissed. Lord Justice Vaughan Williams said he had some doubts about the position of the building owners, as they had constructed the scaffolding for the use of the joiners, as well as for the men employed in the bricklaying, which was their own work. But his Lordship added that he was not prepared to say that fact made Messrs. Malthouse & Ward undertakers for the whole work of building the houses. The case suggests a further proof of a deficiency in the Act. If the scaffolding was the cause of the accident, then anyone who constructed it should be held responsible for the consequences.

Next week crowds will no doubt be amazed when they look upon the treasures with which the late Sir Richard Wallace and Lady Wallace have endowed the nation. The value of the collection is not announced, but when it is said that for a series of early swords with other arms and armour Sir Richard gave 73,000*l.*, the outlay on the other examples of art must seem to go beyond ordinary calculations. Those who remember the exhibition of the collection in the Bethnal Green Museum from 1872 to 1875 will be surprised at the difference of the objects under their new conditions. In reconstructing the building the ordinary type of a public museum has been avoided, for it is still suggestive of a grand London mansion. The rooms, however, communicate on each floor. The stables have been removed and the site utilised for galleries to contain the armour and sculpture on the ground floor, and for admirable picture galleries lighted from above on the first floor. A more enjoyable treasure house does not exist in London or abroad. The sculpture hall is enriched by mosaic flooring and tiling of exceptional excellence, which are to be credited to Messrs. Minton & Co. The style is Persian, which is treated with appreciation of its beauty. Having so many delightful works of art to engage attention, the visitor is not unlikely to overlook the efforts which were made to provide a suitable framing for the collections, and on that account we have endeavoured to bespeak notice for some of the features of the reconstruction of Hertford House.

SYMBOLIC BUILDINGS.

WHEN modern buildings are proposed utility appears to be the first consideration. They have a definite purpose to serve, and beyond that little attention is given to other objects. It cannot be denied, however, that some buildings lately erected in common with many of an earlier time become expressive of qualities in those who temporarily or permanently inhabit them. In several churches, for instance, the position of the seats suggests the degree of wealth of the occupants. In America they are often set up by auction, and the prices given exceed those in opera houses. At least one attempt was also made in churches to go back to the arrangements of a primitive age and to have an outer hall for those who were supposed to be unworthy to enter the main building. But it was not a success. Churchgoers will not tolerate that they should be placed in positions according to their virtues and knowledge, although they may be indifferent about affording testimony of their poverty by taking back seats. In the same way theatres are also suggestive of degrees of wealth, and it would be considered almost an impertinence if a poor man were to invest his savings in hiring a seat for a night where he would enjoy the luxury of having millionaires for neighbours. Money in our time is supposed to be the supreme good, and almost unintentionally people who do not believe in symbolism in their public dwellings or even in their residences are compelled to bear testimony to the influence of wealth.

In the old days, when symbolism was more generally accepted as a necessity, it is not surprising that so many buildings were symbolic to a degree which we cannot now fully comprehend. Greek houses, although they were not supposed to be kept back from the roadway in towns, generally suggested, we are told, by some inscription or symbol before the door was reached that the visitor was welcome or that he was expected to bring good fortune. If there happened to be a court an altar was placed in it, or some other emblem. That would be the arrangement in the historic period, but the comparatively primitive idea of the expressiveness of certain parts of a house is suggested by what is said about the palace of Alcinous in the Odyssey. His daughter Nausicaa tells Ulysses that he is boldly to pass on until he sees her mother spinning beside the fire with all her maids in order behind, and that he is to clasp the woman's knees and beg the favour of her aid to enable him to return to his own land. Ulysses carries out the instructions exactly, and then, according to custom, seats himself among the ashes, whereupon one of the chiefs says to Alcinous that it is not honourable to have a stranger in so humble a position. The stranger is therefore raised from the ground and one of the sons of Alcinous resigns his seat to him. Later on when the time for sleep arrives a couch is prepared by the mistress of the house for the stranger under an outer portico. Hospitality is displayed, but etiquette is not departed from. There were rules and regulations which everybody observed, and a Greek knew exactly when he came to a house where he was to stand or eat or sleep. His relation to the owner was to be suggested by his attitude. It is therefore recorded that when Ulysses returned to his own house, which at the time seemed to have been a place of public entertainment, he did not pass the threshold, but placed himself outside until he was invited to enter in order to receive food, after which he returned to where he originally stood.

We can only know Greek palaces from the general descriptions given by poets, who were aware that over-precision in furnishing details would be fatal to their art. But annalists and other scribes of a later time did not consider themselves as subjected to any law which imposed reticence. With the Greeks, not only half but even a fraction was considered more effective than a whole in literature. But with the Celts detail was exaggerated, and in consequence their descriptions are generally most tiresome to modern readers. But an account which is given of the palace of one of the Milesian kings supplies a series of numbers which could have no other meaning except one that was symbolic. The palace belonged to Conn of the Hundred Battles, and had been used by his predecessors from the time of Niall of the High Towers. It was built, we are told, on the sacred number three, for the king had vowed to construct three towers, and respect for that and other mystic numbers inspired the arrangements. During the reign of Laogaire the palace contained fifty apartments, with fifty men in each, and fifty chambers for the guards, holding twenty men in each. Its height was thirty cubits. The diameter of the surrounding court was seven casts of a lance. The circumference of the palace was equal to the diameter of the court. It had seven entries. In the hall were 150 ordinary cups, fifty drinking horns curiously inlaid with gold, and fifty engraved goblets for the use of nobles. Each torch-holder was five cubits. Among the attendants on the king were seven astrologers, seven historians, one Druid, one jester, and one harper. Only one chariot was permitted to remain at a time in the court. When Cormac reigned the palace was much enlarged. The diameter of the court was increased to seventeen casts of a lance. There were 150 apartments and 150 dormitories for the guards, with sixty men in each. There were twelve porches, twelve gates, and 1,000 guests in each wing, besides princes, orators, men of science, engravers in gold, in silver, and in stone, with other artists. In the banqueting hall there were twelve tables on each side, with sixteen waiters: eight for the astrologers, historians and secretaries. Daily 100 guests dined in the hall. In the palace were twenty-seven kitchens, and nineteen lavers for the hands and for the feet. How much was true and how much was fanciful in the description can never be known, but the care that was taken in supplying particulars is enough to prove that at one time the planning of a palace was determined by laws to which we are now indifferent. Certain numbers were supposed to be endowed with special properties, and the adoption of them was believed to be sufficient to bring favour on the building.

A similar spirit would appear to be exemplified in the Welsh palaces. According to one law the place nearest the fire was to be reserved for the king. Near him his torch-bearer was placed. Then came the guest, the stranger, the heir-presumptive and the falconer, the precedency testifying to the real or imaginary value of the personages. The chaplain also had his place, and near him were the justice and the royal bard. The steward was stationed near the door. On special occasions the bard occupied a post of honour. He was so much respected that anyone who insulted him was heavily fined, but should he be murdered it was necessary to pay a mulct of 126 cows. These and similar instructions suggest the connection which existed between position in a building and etiquette, and it was the builder's business to make arrangements accordingly. If, as is not unlikely, the Welsh halls or palaces were constructed of wattles, reeds, and turf, the love of ceremony appears the more remarkable.

The desire to be symbolic was so general it has been utilised to explain forms which probably were originated without any desire to suggest a latent meaning. Caryatides do not usually appear as if they were figures undergoing punishment, for they support masonry with as much ease as the Athenian girls in the frieze of the Pan-Athenaic Procession carry baskets or textiles. We may therefore conclude they were invented by an artist, although popular belief will always accept them as the captive women who were taken at Caryæ. The Atlantes and Telemones may have had as simple an origin, although they are considered to express a myth. In the interesting paper by Mr. Yost, the American architect, which we published last week, there is an indication of a new source of symbolism, for as he implies that the triangular roof, the fluted columns and other features were derived from the palace and temple erected by Solomon, it is open to conjecture that in them we have symbols of which the Greeks and the peoples who followed them were not aware. "That harmony of freedom and hope which is manifested in the forms and motives of subsequent art," or in other words, Roman and Modern art, is credited by Mr. Yost to Hebrew inspiration. But the triangle must have been used at a very remote period in Greece, for the space above the Gate of the Lions at Mycenæ, and which was prepared for the reception of the sculptured lions, is supposed to assume that form, and the old archæologists imagined it must have had some very profound signification.

The symbolism of Gothic churches has been, it is declared, carried to an extent which went beyond all classes of buildings at an earlier time. From what has been asserted by some authorities it would be reasonable to conclude that from the planning to the smallest ornamental detail the gratification of the eyes of a spectator was of no account, and that everything was produced to point a moral, or to recall some circumstance in sacred or ecclesiastical history. There is no reason why analogies could not be discovered between the work of masons and ethics as between ethics and the natural objects around us. Some men appear to have a genius for fancying relations of that kind. But it is very doubtful whether the architects who designed the churches, or the masons who carried out the designs, cared to express thoughts which could be better done by means of speech, or by writing, and later by printing. As in poetry, the artists came first and the commentators followed.

No doubt buildings continue to be eloquent, and often suggest very clearly the character of those by whom they were erected. But an ostentatious house may have a modest person for owner, and *vice versâ*. It would be unsafe to say that the house is always an indication of character. In London, or any large town, it is no less fallacious to interpret the buildings of a past time by a theory of conduct. As to public buildings the difficulty of applying a rule to them is indicated when it is found that only two in London are, by some authorities, supposed to display their purpose; one being the Great Northern Terminus at King's Cross, and the other the prison of Newgate, which is about to be demolished.

SURREY.*

WHENEVER the history of a county is mentioned the question arises, How did such a division originate? At the present time, when we find cities and towns are endeavouring to widen their boundaries and to convert land that is suburban into urban, it is not irrational to suppose that in an early time the extent of a county was determined arbitrarily. It was and is still believed by many that the division of England into shires or counties was one of the great deeds of King Alfred, but in several cases there can be no doubt that the existing county boundaries corresponded with those of Saxon states. Other shires were subdivisions of the states, and some could be mentioned which have absorbed smaller shires. In the Act relating to the jurisdiction of the Bishop of Durham, which was passed as late as 1837, we have mention of Craikshire, Islandshire, Norhamshire, Bedlingtonshire and Allurtonshire. The county of Surrey has some peculiarities which are interesting and help to explain the character of its history. Mr. Malden says of it:—

> From its situation and its name we can see at a glance how Surrey differs in its origin from many other counties. It is not a district naturally marked off as the home of a people or tribe such as Sussex, which lay between the forest and the sea, with woods and marshes defining the limits of its coastline in the west and east. It is not like Cumberland, or like Cornwall, the last relic of a Welsh kingdom, nor like Northumberland, nor like Chester, frontier districts of peculiar history. It neither preserves the primitive name of a district, like Kent, nor the name of early English peoples, like the North-folk, the South-folk, or the East Saxon. Neither is it one of the shires named after a fortress capital, like the shires which fill up the middle of England, counties which were probably deliberately created as administrative districts by the West Saxon rulers who had conquered the Danes. The early versions of its name—Sothereye, in Robert of Gloucester, Suðrige or Suðrege, in the Anglo-Saxon Chronicle—point to the meaning of the Sothern kingdom or realm, from the Anglo-Saxon *rice*, a kingdom, the termination of the word "bishopric." The same origin is borne out by the derivatives Suthregienses, used for the men of Surrey by Florence of Worcester, or Sudrigenses, used by Henry of Huntingdon, who calls the county Sudreia. Camden, probably wrongly, derives the name from that primitive word for a river = *rea*, which occurs in several English rivers and in the Church of St. Mary Over*rie* at the foot of London Bridge, and he explains it as "the Land South of the River." Even were Camden right, the conclusion would be the same that we come to from the same derivation, that the district was named by people who lived north of the Thames. The Mercians had some reason for distinguishing the country directly south and south-west of London from the country also under their rule in Kent and also from other West Saxon lands. Surrey as named is an appendage to something greater to the north of it.

Surrey must now be considered as almost indispensable to London in supplying advantageous sites for residences for men who are there engaged. But when London was not a great city it is doubtful whether the county was thickly inhabited. It was not a great agricultural region. In the days of Elizabeth it was said to be "the barrenest in England," and at the present time, with all the improvements which have been introduced into cultivation, we suppose no product pays so well as hops, which have to be confined to limited areas. Much of the picturesque country which is so delightful to visitors and so enjoyable to residents has little value in the eyes of a farmer. A large area of the Weald was a forest; in fact, many circumstances combined to make the greater part of Surrey ill adapted for the habitation of those who were compelled to depend for subsistence on the product of the soil. The scarcity of prehistoric implements is enough to suggest that at a very early time its shortcomings were known.

Surrey and the adjoining country was supposed in Cæsar's time to be occupied by some of the Gallic Belgæ. But although the great Roman must have passed through Surrey in order to cross the Thames, and may have constructed Roman camps on his way, he does not give any precise information about the county or the tribes that inhabited it. Manning, the historian of Surrey, believes that the Regni of Surrey and Sussex correspond with the Segontiaci of Cæsar. The county would appear to be included in the Britannia Prima. Under Roman control attention would be sure to be given to the construction of roads, but the lines of those in Surrey are now difficult to discern unless in parts. In no county occupied by the Romans is there more difficulty in tracing evidence of their sojourn. According to Mr. Malden, "We may picture Roman Surrey to ourselves as a pleasant, rural country, ungarrisoned and secure from enemies during the greater part of the Imperial rule. The legions were quartered far away in the North and the West. Neither was Surrey a great centre of trade or population. The towns must have been few and small." The most remarkable relic met with was a brass statuette of Æsculapius which was turned up on Walton Heath between Reigate and Epsom. At Abinger was a small Roman villa, which has interest in the history of science, for "it was here that the late Charles Darwin scientifically observed, and recorded, the ravages of the earth-worms upon the exposed and once-admired tesseræ of the atrium."

During the long period of six centuries after the Roman departure—the true Dark Ages of England—Surrey was never allowed to have an independent existence. At one time it formed part of the kingdom of Wessex; at another time of Mercia. A great battle was fought at Wibbandune, which may be the present Wimbledon; but the most memorable contest was at Ockley, where the Danes were defeated. Henry of Huntingdon describes it as "warriors charging together as thick as ears of corn, and rivers of blood rolling away the heads and limbs of the slain." At Guildford, Alfred, the son of Ethelred II., was seized in 1036. His eyes were put out, and 600 of his Norman followers were massacred. The manor of Godalming was left by Alfred the Great to his nephew Ethelward. In Kingston several Anglo-Saxon kings were crowned. But it is hard to impart interest to a period in which the arts of peace were of little account.

After the Conquest several of William's followers were able to obtain important estates in the county. Earl de Warenne, William's son-in-law, was especially fortunate, and he became Earl of Surrey, a title which now belongs by courtesy to the eldest son of the Duke of Norfolk. As regards the greater number of the inhabitants under the new governors, Mr. Malden says:—"A very limited number were directly affected, and that the *villani*, and those below them, were really worse off under their new lords than under the old is not certain. That they were better off in some ways under the new government is almost certain. The peace of the country was better kept, on the whole, and foreign invasion was successfully rebutted by the victorious invaders. Domestic order and security might well outweigh trifling changes in what was a depressed social position."

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* *Popular County Histories: A History of Surrey.* By Henry Elliot Malden, M.A. London: Elliot Stock.

One of the consequences of the new condition of affairs in England was the erection of castles. Surrey does not appear to have possessed very many. The most important among them, if judged by the existing remains, was that of Guildford, which was a royal residence. There are some records of works that were undertaken at it in the thirteenth century. A nursery was erected for Prince EDWARD with bars at the windows to prevent his falling out. In the Queen's chamber a new window was to be constructed as high as was practicable with two marble pillars with wooden lining and glass windows, part of which was to be made to open and shut. The window in the King's chamber was to be barred with iron. His seat at the hall was to be ornamented with the carving of beasts, and on the opposite wall the story of DIVES and LAZARUS was to be painted. Farnham Castle was supposed to have been erected by HENRY DE BLOIS, Bishop of Winchester, brother of King STEPHEN. In Surrey the necessity for feudal castles was less pressing than elsewhere, and we are told that "licence to embattle was a concession to dignity rather than necessity." The churches seem to have been more numerous than castles. Sixty-four are mentioned in Domesday, of which sixty-one survive, "not the actual buildings, but buildings on the site of the former, or representing them, serving the needs of the same places, and in most cases almost certainly endowed with revenues to which their titles date, as the title relied upon by the Earl DE WARENNE 'a tempore de quo non exstat memoria.'" Among the abbeys were the Cluniac, Bermondsey; the Benedictine, Chertsey; the Augustinian, Merton; and the Cistercian, Waverley. The last was the most important house of the order in England, an order which was founded by an Englishman, STEPHEN HARDING. At the dissolution of the monasteries Waverley must have fallen from its high estate, for the value of the property was only 197*l*. 13*s*. 10½*d*. The buildings were not respected, for we are told that "the prosaic eighteenth century used the abbey as a quarry of ready prepared hewn stone, and stripped the walls of the whole of the ashlar blocks, leaving only the core of rubble to mould rapidly away." There are some remains of Waverley, but of the great alien priory at Bermondsey the site is suggested mainly by the names of the roads—Grange Walk, Abbey Road, Bermondsey Square. The hospital of St. THOMAS owes its origin to the Prior of Bermondsey in 1213. The ruins of Newark, near Guildford, suggest the importance of that abbey.

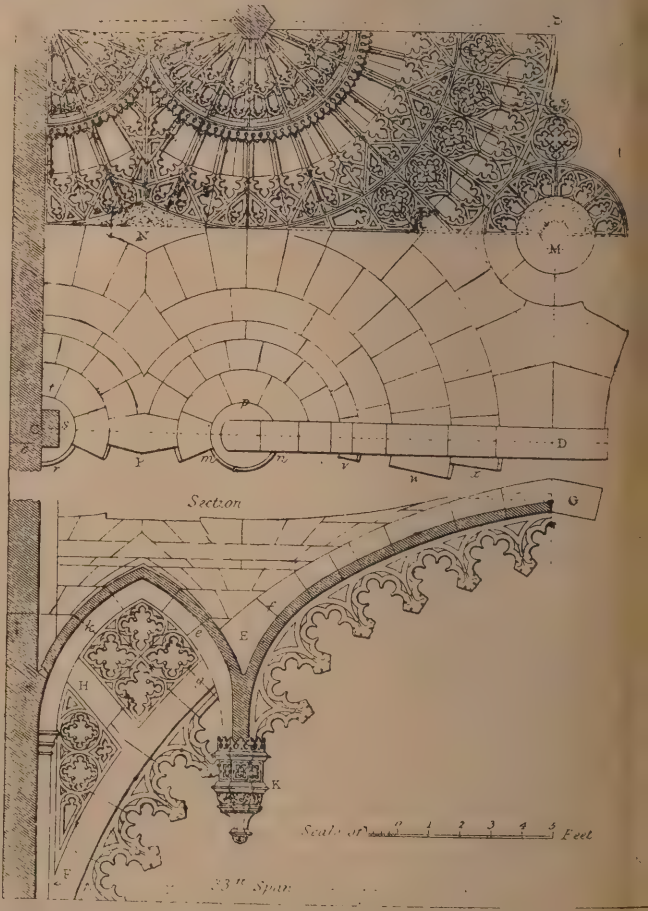
The beauty of Surrey landscapes was long ago appreciated. Sheen, in Surrey, was selected as a residence by several monarchs. A new palace was erected by HENRY VII. which he called Richmond. In 1649 it was described as a "freestone building, three storeys high, with fourteen turrets covered with lead—a very graceful ornament to the whole house, and perspicuous to the country round about." But in the sixteenth century Nonsuch, near Ewell, which was erected by HENRY VIII., was considered to be a more remarkable building. Its character is now only to be inferred from engravings and descriptions, for the practical Lady CASTLEMAINE, when she obtained it as a present from CHARLES II., demolished the fantastic palace and converted the site and the grounds into farms. It must be allowed, however, that Surrey has not done as much for the display of architectural art as its position would make desirable.

Surrey could never be said to possess any staple industry. The rivers were utilised for calico printing, dyeing, bleaching; pottery has been for many years produced in Lambeth and Battersea, tapestry was for a short time woven at Mortlake, and foreign stocking-weavers settled in Godalming. But happily for those who occupy costly residences Surrey cannot be easily converted into a manufacturing district. Probably the most interesting of its industries was the manufacture of iron. It was not as productive as Sussex, but more iron could have been turned out if it were not for local opposition and legislative meddling. In 1553 there were works at Newdigate, and soon afterwards complaints were raised by the natives about the scarcity and costliness of wood for firing owing to the demand for it at the ironworks. There was likewise opposition to glass-making. It was decreed in ELIZABETH'S time that the conversion of timber into charcoal for smelting, and the erection of ironworks should be prohibited within twenty-two miles of London. Other measures were likewise taken to impede the industry, but the discovery that coal could be employed on more economical terms in smelting was more efficacious than Parliaments or councils in overcoming the southern iron trade and in creating a rival in the Midlands.

It is one of the advantages of the series to which Mr. MALDEN'S volume belongs that each writer can follow a plan of his own. The "History of Surrey" is, therefore, unlike most of those which preceded it. The county does not lend itself to the historian who wishes to startle, for all the researches of explorers have not hitherto received much reward. That a region so comparatively peaceful could exist near London is remarkable. But on that account Surrey is not without interest, and Mr. MALDEN is to be praised for representing the past without departing from the truth or giving too much liberty to his imagination.

HENRY VII.'S CHAPEL: VAULTING.

TO a poetic visitor the roof of the chapel of Henry VII. in Westminster Abbey may appear a miraculous creation with its "ten thousand cells where light and shade repose." Washington Irving represents a general opinion when he says (and he deserves to be quoted because he was not brought up amidst Gothic buildings and may be therefore considered as impartial):—"Stone seems, by the cunning labour of the chisel, to have been robbed of its weight and density, suspended aloft as if by magic, and the fretted roof achieved with the wonderful minuteness and airy security of a cobweb." But the magic of the roof is the same as that which is exhibited in countless American structures in steel which carry immense weights across rivers and valleys. It is the result of calculation and of applying means to an end. The tendency of the stones to fall is counteracted by another mechanic force, and the consequence is the stability which has lasted above 400 years. The external surface which is visible from the floor of the chapel is less interesting although more beautiful than the arrangement of the stones, which is concealed. An excellent description of the construction is to be found in the late Professor Willis's essay on Mediæval Vaulting, and which runs as follows:—



In this example the surfaces of operation are entirely chipped away and the upper surface of the vault reduced to parallelism with the lower; but in one or two places these surfaces remain apparently forgotten, and traces of them are seen in many others, so that they certainly were employed there.

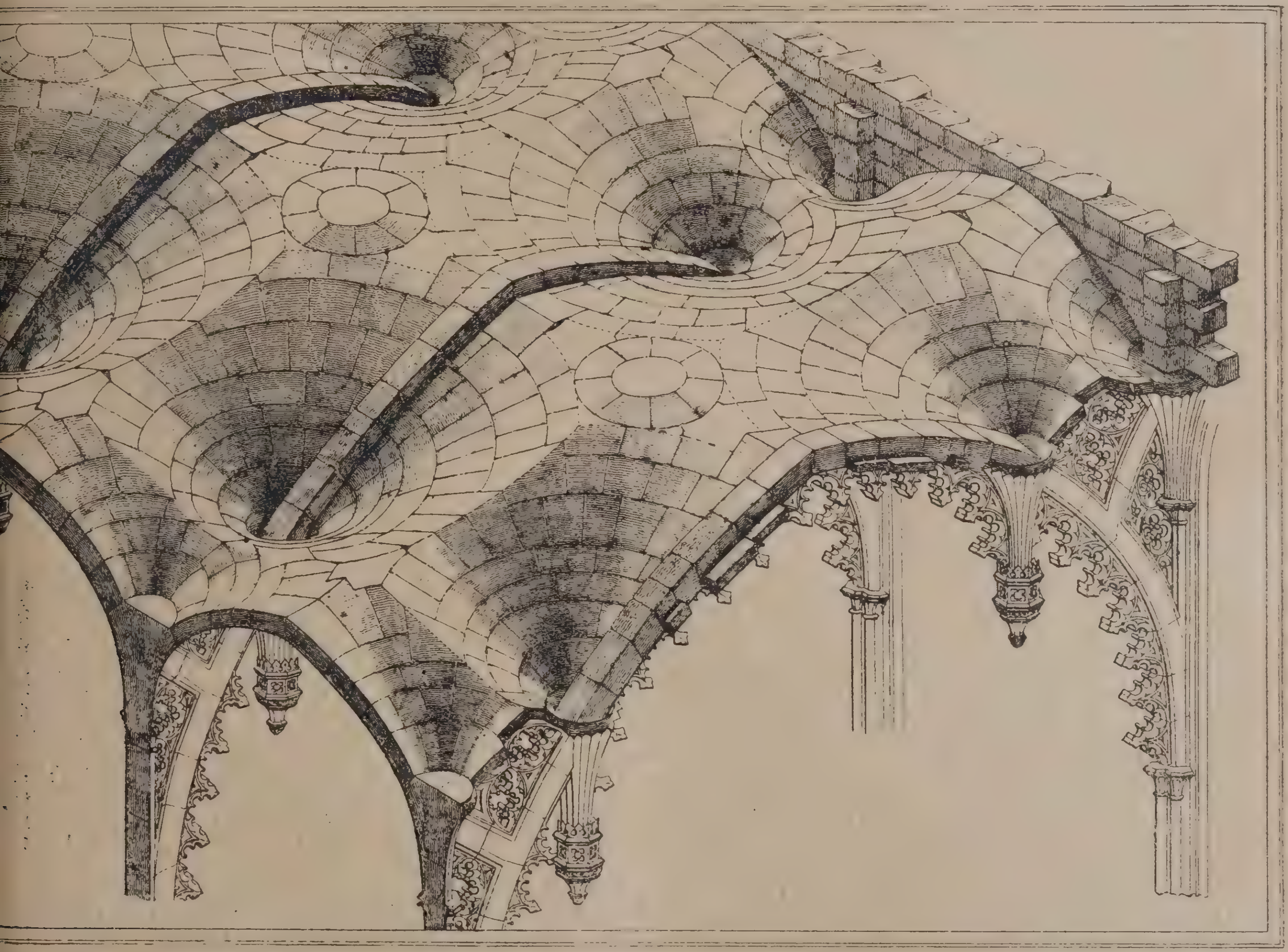
The mechanical structure of this vault is different from that of the other great fan vaults, for a great arch is thrown across between each severy, and each principal fan springs from one of the voussoirs of this arch at a considerable distance from the wall. Thus each fan, instead of including, as in the usual method, half the solid of revolution, contains the entire solid, at least at the lower part. These fans are, however, met by others, which spring from the wall in the usual manner. The same principle of construction had been adopted in the vault of the Divinity School at Oxford, said to have been finished about 1480. This is the earliest instance which remains at present, for Henry VII.'s Chapel was founded in 1502. The vault of the choir of Christ's Church, Oxford, by Wolsey, about 1528, is also upon a similar principle.

A B C D is a plan of half a severy of the vault (see page 396). The upper half of the plan shows its lower surface with the ribs and panels, and the lower half of the plan shows the upper surface of the vault and the joints. A vertical section is shown through a line *c d* close to the face of the great arch.

The great arch F E G springs from the walls at F, the joints below F being horizontal in the usual manner, and the portion F *g* lies below the vault, and is visible from below. A branch arch at H again connects it with the walls, and the space between the latter and these arches is also filled up with tracery, all which serves to stiffen the free portion of the arch, and prevent it from giving way by curving inwards between F and *g*. At *g* the arch pierces the surface of the vault, and the upper portion of it, E G, lies above that surface, its position only being marked on the lower surface by a continuation of the hanging tracery or flowers which decorate the portion F *g*.

The voussoir E, which also carries the pendant *k*, is a very large stone, connected by the joints *e f* and *g* with the rest of the structure. *f* and *g* are the arch joints, by which it is united to the great arch; but there is also a conical surface or bed extending from *e* to *f*, and shown on the plan at *m n p*, from which the masonry of the principal fan or conoidal vault radiates upwards and outwards in all directions, until it meets the neighbouring fans along the lines D M, M N and N P. A fan vault of the same section rises from a conical bed *r s t*, formed upon the surface of a stone C, which projects from the wall. This vault meets the neighbouring ones along the lines P N and N R.

The rib and panel method is wholly abandoned in this vault, which is entirely constructed of jointed masonry, as shown in the plan. This is disposed in concentric rings round the centre of each fan, and the radiating joints are placed so as to break joint with each other, that is, so that the joints of one course fall opposite to the solids of the next course throughout. All the joints are arranged in relation to the pattern, sometimes running along the middle of the ribs so as to split them. At *v w* and *x* the voussoirs of the great arch are made to carry the neighbouring portion of the panels. As before mentioned, the upper surface of this vault is worked into parallelism with the lower. This gives to the upper surface a very striking and bold effect, by displaying most plainly the entire mechanical construction. Its appearance is shown by an isometrical drawing of the vault, which also represents it as having some portions dissected away, to show better its relation to the great arch below. The vault is very thin. The panels vary in thickness from 3 to 4 inches, and the principal ribs project 8 inches from the panels. The great arch rises 7 inches above the upper surface of the vault, and is 12 inches wide.



The fans of this vault, in fact, as far as the stone cutting and the disposition of their joints are concerned, differ in no respect from a dome of masonry, the rib and panel method having entirely disappeared; for a dome like one of these conoidal vaults is a solid of revolution, and like it would be built of concentric courses with breaking vertical joints. The forms of the stones, however, are easily obtained by the use of the surface of operation.

A Bronze Statue, *The Poet*, by M. Apolloni, the Roman sculptor, in the Paris Exhibition, has been purchased for the Art Gallery of Boston, U.S. The price given was 1,000*l*.

Mr. James Mansergh, the engineer of the new waterworks in the Elan Valley for the supply of Birmingham, has presented the Lord Mayor of that city with a silver card-tray, on which is engraved a view of the Careg Dhu Dam.

Messrs. Longley & Co., of Crawley, have obtained the contract for the alterations of the Brighton Library, Museum and Art Gallery. The amount is 37,680*l*.

ROYAL INSTITUTE OF BRITISH ARCHITECTS.

THE sixteenth ordinary meeting of the session of the Royal Institute of British Architects was held on Monday evening last. As a large number of invitations had been issued to non-members, the President, Mr. Emerson, held a reception prior to the commencement of the special business of the evening.

Presentation of the Royal Gold Medal.

The following address was delivered by the President :—

AS the presentation of the Royal Gold Medal is an annual event, it is perhaps scarcely necessary for me to remind you that it is an honour granted by her most gracious Majesty, on the advice of this Institute, to a distinguished architect, archæologist or man of letters, who by his works directly, or it may be indirectly, has furthered the interests of the art to whose service this Institute is dedicated.

Eugene Lanciani, to whom the Queen has done the distinguished honour of awarding her Gold Medal this year, desires me to say how deeply distressed he is at being prevented attending this evening to receive it; but his presence in Rome just now is imperative. Therefore, Count Carobbio has been deputed by his Excellency the Italian Ambassador to receive it for him.

Since 1848, when the first presentation was made, the medal has been conferred upon distinguished men of many nationalities, but only once during that time on a countryman of Professor Lanciani. In 1849 it was presented to that famous Italian, Luigi Canina, whose voluminous works occupy an important place in our library. Signor Canina and Professor Lanciani are united across the years by many bonds of sympathy, by the nature of their work, by their common interest in and love for the Eternal City of the Seven Hills. In this interest all architects must share, for is not the home of the Pantheon and St. Peter's one of the first objects of their pilgrimage? But although, as we know, all roads lead to Rome, it only gives up its secrets to a chosen few, whether architect or archæologist. And to none has it been more communicative in this respect than to Professor Lanciani, who has contributed so abundantly to our general as well as special knowledge of the city in all its architectural aspects and historical phases.

On the occasion of these presentations it is usual to give some detailed and authoritative account of the life and work of the recipient. Professor Lanciani's life has been one of so much labour that the mere recapitulation of what he has accomplished would speak more eloquently of his many claims to distinction than any eulogy which might be pronounced from this chair. I must, however, content myself with a brief and general outline of his career.

Rome, which has been the scene of his labours, was also the city of Rodolfo Amadeo Lanciani's birth, which occurred on January 1, 1848. Graduating first in philosophy and mathematics in the Collegio Romano in 1867, two years later he again graduated in mathematics at the University of Rome, and a year later received the diploma of architect and engineer. In 1871 he assumed the post which brought him into touch with his life's work—the post of Assistant Director of Excavations, from which, three years later, he advanced to the position of Director, which he retained until 1890. He combined this position with the professorial Chair of Topography at the University of Rome, and at the same time acted as secretary of the Archæological Commission of Rome.

I need not, perhaps, dwell on the prominent part which Signor Lanciani has taken in Roman excavations further than to mention the valuable results which he obtained from his work on the Sacra Via—on which he was engaged for four years—and from his excavations at the Thermæ of Agrippa, the House of the Vestals, the villa of Voconius Pollio at Marino, the theatre and barracks at Ostia, Nero's villa at Subiaco, and other works which are pretty generally known to students of Roman archæology.

But it is not only from the earth that Professor Lanciani has brought fresh material to light. He believes in the importance of the unpublished document, and in other fields of original research than those of excavation his labours have been equally indefatigable and realised similar valuable results. Most of the principal European libraries, both public and private, are known to him, and his discoveries have been many and important, the fruits of which have appeared in his contributions to the Transactions of Italian and other learned societies. One of his proudest achievements in this direction is incorporated in his memoir on the "Aula e gli Ufficii del Senato Romano" (Curia-Julia-Senatus).

This brings me to his career as a writer. I understand that down to the end of last year no fewer than 417 contributions of one kind and another from his pen had been published. His first work, a catalogue of the Castellani Etruscan Collection in the capital, obtained for him the gold medal of the city of Rome, and his book on aqueducts ("I Commentarii di Frontino"), published in 1880, was recognised by the Royal Prize of 10,000 lire. One of his most recent works is "Forma Urbis Romæ," an archæological plan of Rome in ancient, mediæval and modern times. I am glad to hear that this important addition to archæology and topography will shortly be followed by a similar map of the Campagna, supplemented by six volumes of text containing an account of archæological research in Rome since the revival of classic studies. The extent of the ground covered by this work may be gauged by the fact that it will contain some 25,000 hitherto unpublished documents bearing on the excavations.

Professor Lanciani adds to his many accomplishments an excellent knowledge of English (which makes his absence to-night the more regrettable), and his "Ancient Rome in the Light of Recent Discoveries" was written in English. He has at the present time a volume in the press entitled "New Tales of Old Rome," which deals with his latest discoveries in the Forum and on the Sacra Via, and which will be looked forward to with interest alike by the archæologist, the architect and the historian.

Professor Lanciani's labours have been great, and it must be satisfactory to him to know that they have been widely appreciated. Many European societies claim him as a distinguished member. Prussia, Russia and his own country have conferred orders on him, and the Universities of Oxford and Glasgow, Harvard and Wierzburg have extended to him the distinction of their degrees.

Signor Professor Lanciani is undoubtedly the greatest of Roman topographers, as is proved by his splendid work the "Forma Urbis Romæ." Also he is great as an archæologist, no matter what sneers may have been cast at him or ungenerous criticisms written on some of his work, because others coming on the scene of the Forum excavations, somewhat later than he, dug a foot or so deeper and made discoveries which upset certain theories he had advanced. He nevertheless remains the man from whom some of those who cast stones at him had learned pretty well all they knew of Roman archæology in the first instance. Surely it is no shame that on certain evidence one may make conjectures which on further evidence being produced may have to give way to other views. This is not sufficient to condemn any man, and certainly not one who has done so much really excellent work as Signor Lanciani.

Count Carobbio, I have the distinguished honour to hand you the Queen's Gold Medal for transmission to our excellent friend and confrère Signor Lanciani, and to express the thanks of the Royal Institute of British Architects to you for so kindly attending this evening to receive it on his behalf.

Count V. di Carobbio having received the medal from the hands of the President, expressed his thanks for the honour conferred on his countryman.

A telegram from Signor Lanciani was read, in which he said :—"I am present in spirit and offer the Institute heartfelt thanks."

An exhibition of views, limelight projections from a large number of photographs taken in Greece by the late Ernest George Spiers, followed. The views were explained by Mr. F. C. Penrose, M.A., who testified to the perfection of their execution. A short description of each subject was given. The views were applauded as they merited.

The President offered the thanks of the meeting to Mr. Penrose for his kindness in describing the views, and took the opportunity to express some observations on the differences between Greek and modern work.

THE NECESSITY FOR OFFICIAL CONTROL OVER ARCHITECTURE IN OUR TOWNS AND CITIES.*

THE period of the most extraordinary and spontaneous revival in the art of architecture during the fourteenth and fifteenth centuries, known as the Renaissance, had been preceded by a wave of great interest in the advance of learning, culture and knowledge. The century now at its close has been one also of unprecedented advance in all branches of learning, culture and science. It has also been marked by many indications of a revived interest in architecture.

This interest seems, however, to have been confined mainly to individuals, or small associated bodies of cultivated architects, archæologists and artists. In fact, since the Renaissance in England, which followed hard on the heels of that in Italy, architecture seems to have been steadily on the decline. The strong Classical movement in the earlier years of the century, and the enthusiastic outburst of Gothic revival later on, were, however, indications of the existence of some amongst us who recognised the importance of a fitting national architecture being evolved if our Metropolis and large provincial towns were ever to be worthy of the great British Empire. But the public interest in architecture is evidenced by the quality of the designs they appear to be contented with, and is exemplified by the numerous extraordinary conceptions seen in our streets and public places. Nevertheless, there is an undoubted undercurrent of interest in, as well as growth in knowledge and appreciation of, artistic architecture, which is fostered by many of the artistic and building journals.

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* A paper read by Mr. W. Emerson at the Congress of the Royal Institute of British Architects on Tuesday, June 19.

These reflections cause one to consider how it is that with all our increase of knowledge, all our growing interest in art and all our opportunities of study and travel in other countries, our streets should be so replete with staring incongruities, uglinesses, ignorances, and want of refinement.

One cannot help feeling that the following have been some of the reasons of this anomaly :—

(*a*) Ignorance and want of proper education of the public and the architects in artistic matters.

(*b*) Lack of public interest in the subject, causing unwillingness to spend money on architecture, and the mercantile desire to build as quickly as possible in order to avoid pecuniary loss from rent or otherwise.

(*c*) Lack of control by competent educated authorities, either governmental or municipal, or estate agency, whereby at least the erection of palpable architectural enormities might be prevented.

In regard to (*a*) and (*b*), degeneration in architecture may have set in with the dying-out of the art and craft associations which in former years, both under the Church and guilds, exercised authority in architecture and art knowledge, and so carried out many of the important buildings in almost every country ; these guilds handed down from father to son in successive generations what was known of the arts, as, in fact, takes place in the East at the present time.

This system died, and with it their traditional art knowledge declined. Coming to our own times, undoubted improvement in regard to education in art is taking place every day. The Royal Institute of British Architects' Examinations now promote study on the part of the rising members of the profession, while the education of the general public is so many-sided nowadays that even architecture claims some attention. But it is the third point, as to the desirability of control in respect to the design of our new buildings, to which I wish mainly to draw attention.

Could ancient Rome ever have developed the magnificence in architecture that its works reveal, had there not been some sort of control over the artistic as well as the constructive side of their buildings ? If Augustus boasted that he found Rome of brick and left it of marble ; and if the magnificence of Vespasian, the genius of Trajan, and the cultivated taste of Hadrian conceived and accomplished the noble works of their reigns, they evidently exercised a certain control over the embellishment of the imperial city. History tells us that it was the duty of the Pro-consuls in ancient Rome and the provinces of the Empire to supply the deficiencies of the citizens in their building operations, to direct their taste, and sometimes to moderate their emulation with each other. The emulations of our citizens scarcely require much moderating in this respect now. The Romans were, however, apparently uncontrolled in regard to their private houses, and the modest simplicity of these proved their freedom in this respect.

In our day it is also not so much in private dwellings that artistic control seems necessary as in semi-public buildings and business houses in our streets. During the Renaissance public taste and opinion had a controlling influence over architecture and art, for even the production of a new statue, if fine, was made the occasion of public ovation and rejoicing.

Public taste and opinion now have little influence, but the necessity of some competent control over the art of architecture is felt not only by many in England, but also in all parts of the civilised world. And as a proof of this feeling in France a book by a French architect, M. Gustav Kahn, is now, I understand, being published on this very subject. Most countries have control over the designs and construction of their public governmental and municipal buildings, but over private buildings facing on public streets and places there appears to be hardly anywhere any other control than that affecting constructive or hygienic matters, or widths of streets and general heights.

The question is how some efficient control—affecting not only the constructive but the artistic design of public as well as private buildings—could be obtained, and whether or not such a control would be advantageous.

In France, to quote the words of our late secretary, Mr. William H. White, the Council of Building in Paris, the principle of which was first initiated by Colbert in 1663, has existed in some form or other since his day. In 1798 this Council, under another name and in altered form, took for a time the name of "Assemblée Centrale des Architectes," and consisted of seven architects. Later on a Councillor of State was appointed president, but the vice-president was always an architect. In 1838 this Council was extended to twenty-four in number, of whom fifteen were architects, and their duties were increased. The members of the Council were not permitted to design or execute new works under the Administration. They had the final judgment as to designs submitted in competition for public buildings. They also advised as to the selection of architects for new public works ; and since then this Council has had the supreme control of all public works, there being numerous divisions—which I need not now go into—for the efficient control of the various departments of works. All were placed under the charge of a Minister at the head of the Maison de l'Empereur et des Beaux-Arts. The responsible chief of each division of public works was advised by committees of experts. I believe, unless any alteration has been made lately, the functions of Supreme Director of Works are divided between (*a*) the Minister of Public Instruction and Fine Arts, (*b*) the Minister of Justice and Public Works, (*c*) the Prefect of the Seine, (*d*) the Prefect of Police. The Minister of Public Instruction and Fine Arts, the Minister of Justice and Public Works and the Prefect of the Seine are all advised in the matters of architecture and building by councils or committees, of whom a large proportion are architects. The Prefect of Police, whose duties are mainly in connection with the safety of the public in respect to buildings in public streets, &c., is assisted by a number of architects, the Inspectors-General being men of high distinction in the profession.

This systematic organisation has been responsible for some of the best and most beautiful buildings in Paris, and appears, in respect of public edifices, to give satisfactory results, and has undoubtedly influenced the national architecture of France. This control is exercised always over a design for a building which has to be carried out with the aid of funds contributed wholly or in part by a public body ; but in France, when it is a question of private buildings, the control of municipal authorities is only extended over such matters as widths of streets, heights of buildings and hygiene, but in no way over artistic matters. In fact, M. Lucas informs me of a case some years ago proving how little voice the authorities have in such matters. The story is as follows :—

A house-owner at Chantilly, wishing to force the owner of a house situated opposite his own upon the public road to quit the district, painted the façade of his own house black, with death's-heads and cross-bones picked out in white. This led to a series of actions and appeals in courts of law, with the result in the end that the owner of this grisly façade had to wipe it all out and repaint it in the usual manner. But the judgment had nothing whatever to do with the question of art in regard to street architecture or in reference to public taste, but solely on the ground of damage done to his neighbour by the hindering of the letting of his premises.

In Berlin also, though I believe there is Government control over public buildings, and though there are building regulations and legal restrictions in the matter of private construction of buildings, these have nothing to do with æsthetic considerations. Every proprietor has a right to occupy his property with buildings or alter his buildings, but no building is permitted to the damage or the insecurity of the public or the disfigurement of towns or open spaces. In regard to the word "disfigurement," in legal proceedings which have been taken to prevent the erection of unsuitable edifices the judges have invariably dismissed the cases, on the ground that matters of taste are purely individual. But I am informed by one of the leading Berlin architects that this defect is felt very much and will shortly be remedied, and counsel is being taken as to the scope of such legal restrictions. This matter, which is under consideration, can scarcely be brought to a conclusion this year.

In Austria I find there is no control over new buildings in respect of their æsthetic properties—only over construction.

In Denmark there is also no control over taste or design—only in construction and other kindred matters, and the lawyers there strongly uphold the unlimited right of an owner to build whatever he pleases, provided it is in conformity with the law.

But the disregard of the public's just claim for beauty of design has been severely censured in the Common Council of Copenhagen, and the opinion expressed there has influenced the magistracy to such an extent that now in most deeds of conveyance whereby the community sells land for building purposes the stipulation is made that the drawings for the exterior of their buildings are to be submitted to the magistracy, who then seek the opinion and advice of the city architect, and generally decide according to his advice.

To this scheme there are many drawbacks. When the community is the greatest landowner, as in Copenhagen, it may affect many, if not most, of the buildings; but even then, when incompetent architects are chosen by the building owners, and the design is submitted after the sale is completed, very little can be gained by the alteration and correction of unsatisfactory drawings, or by the absolute refusal of them ; and their approval, if the alterations, as is usually the case, involve more outlay of capital, naturally raises objections on the part of the building owners.

Were it possible for the designs to be submitted previous to conclusion of the bargain for the land a much more effective control over the design could be exercised.

Lately this has caused a movement for a revised building Act, which shall have clauses giving power to the building commission to refuse consent to the carrying-out of a design that would disfigure the street or place in which it is to be erected. But whether such a clause will be carried is uncertain, for there again the question must arise as to what disfigurement entails or means.

In Italy control of buildings is a municipal affair. Each city elects a council, called the "Commissione Edilizia," whose mission is to examine every building project, whether for a new construction or for an alteration to an existing structure, and to uphold the interests of the public from the standpoint of beauty.

They have to examine the plans from an æsthetic point of view, and if in their judgment the execution of the project would disfigure the city, they are bound to refuse their sanction to it.

This committee, the "Commissione Edilizia," has also the power to grant exemption from the building regulations in case what is termed the "ornato pubblico" should require it; for instance, in the matter of heights.

The Pope's Government has always desired to go one step better to secure improvements in the aspect of the city. Leo XII. granted that whoever should build, or rebuild, or restore a house from designs approved by the St. Luke's Academy of Fine Arts should be exempt for thirty-three years from an increase in property tax—a most just and wise measure for the encouragement of citizens to erect handsome buildings.

In Russia I learn that every governing institution has its own building officer and architects, who are responsible for their buildings. But the latest innovation is that designs for all important buildings requiring artistic skill shall be examined by the council of the Academy of Art; but until now many exceptions are made to this rule, and, in consequence, I am told, barbarism often reigns in many of the buildings.

In America, in New York and Boston, art commissions exist, consisting of persons appointed by the mayors, and of those who hold certain positions at the head of certain public institutions, and the law provides that no work of art shall be accepted by the city government or erected in the streets or public places without the approval of the respective commissions. This applies, however, more to fountains, statues, monuments and suchlike than to buildings, excepting that within certain limits a building paid for by public funds may be altered, modified or controlled by the commissions.

It seems, therefore, that Italy alone has any real control in the public interest over the artistic design of buildings, and this is exercised by committees in each city.

There can be no doubt that in England, as well as in all other civilised countries, great and important steps have been taken of late years in the way of control over building operations in matters affecting the public welfare, such as constructive details, hygiene and sanitary questions, and possibly it is to be expected that these should take precedence over matters of taste and beauty. But the more educated public seems now to be justly discontented with the effect of many of our buildings and the way in which town improvements and public works are conceived and carried out; and there is no doubt a growing desire that some sort of control as to the æsthetic side of architecture should be exercised by competent authorities, at least in respect of our public streets and places. But how to exercise such a control is a very difficult question. So long ago as the year 1881, when the late Mr. George Edmund Street was president of this Institute, he drew attention to a number of flagrant cases of mismanagement in regard to our national monuments, and to the selection and arrangement and laying-out of certain public buildings, bridges, streets and their approaches, and then argued that all pointed to the necessity for the creation of a Government Ministry of Fine Arts, which should have a supervising eye and control over all our national monuments and collections, and also over new edifices, city improvements and rearrangements. The late Lord Leighton stated that much might be said in favour of some scheme for checking the production of ugliness in this country, but feared that many and grave difficulties would beset the carrying-out of any such scheme, and I have reason to believe that one of the chief difficulties he saw was that in the event of such a ministry being established, and having by chance a dictatorial head, it might eventuate in one man's architecture, resulting in a monotonous effect in our towns.

This subject constantly recurring and attracting the notice not only of architects, sculptors and artists, but also of some of the educated public, seems to show that it is a measure which must eventually find its way into practical politics; and surely, as it is of Imperial interest and would undoubtedly be for the good of the greatest number, it ought to do so.

Let us consider for a moment some of the points for and against such high authoritative control. Some of the points in its favour would be:—

1. That such a controlling body, composed of fully qualified men of artistic perception, would prevent the erection of new public buildings, such as our Law Courts and the Admiralty, on sites insufficient, not only as regards the requisite accommodation, but as regards æsthetic effect, in the interest of what the Italians call the "ornato pubblico."

2. That the laying-out of open spaces, public places and their approaches would be considered by properly qualified and competent experts and judges, rather than, as is often the case, by incompetent persons, often under the orders of uneducated tradesmen who for the moment may fill the seats of our councils, vestries, or local governing bodies.

3. That such schemes as the two bridges at Blackfriars, erected on totally different principles and lines, within a few yards of each other, would be rendered impossible, and, when necessary, proper designs for new bridges, engineering and architecture going hand in hand, would be assured.

4. That when schemes for new streets, &c., such as the Strand improvements, lately before the public, or the Northumberland Avenue or Charing Cross Road or Shaftesbury Avenue, were under consideration some general plan and design would be arranged, and the talent of our best men obtained under fair remunerative terms, and they would be responsible to such a controlling power for the proper carrying-out of the architecture of the scheme, and tenants would be unable to erect whatever uglinesses and incongruities their uneducated tastes might prompt.

5. That the taste of the public would gradually be elevated and improved, and the man who wished to disfigure the town for selfish ends would be reprobated, and eventually our town architecture would become the glory of our nation, and architects who were not artists also would gradually cease to obtain work.

6. That the more education increases the more a definite control of some sort seems necessary, because posterity has some interest and right in the taste of its forefathers, and we should build not only for the present, but for the future.

7. That such a control need not mean, under a properly constituted ministry or commission, monotonous uniformity of design—one man's architecture; but the juxtaposition of inharmonious designs, materials and colours would be prevented, and a general harmony with plenty of variety would be ensured.

8. That at present architects' powers are often limited in dealing with strong, self-willed and selfish clients who have no feeling for the fitness of things and are deficient in taste, and this should not be the case. For example, should an architect refuse to erect a huge stone building apparently entirely supported by plate-glass windows for such a client, he would be punished by losing the work, and some less conscientious person would unhesitatingly do it. Such a thing would, under control, be out of the building owner's power; the architect would be able to say, "Such a design would not pass the Ministry of Fine Arts, therefore it is useless my attempting it."

Some of the points that might be urged against such a control are:—

1. The politician would probably say this would be collectivism as against individualism, and would interfere with and limit the rights of owners in regard to their properties, and, on the ground that there is no accounting for taste (*de gustibus non est disputandum*), might have some show of reason on his side. But if this were for the national good in matters of taste, I cannot see that it would be worse than interfering with freedom in construction and hygienic matters for the good of the public safety and health.

2. It would be urged that it would increase the difficulties of letting land for building purposes; but were it the general rule such a complaint would soon cease, and the inevitable would become the good.

3. At present many boroughs and corporations give their architectural work to their engineer or surveyor, and therefore would object to this control. Often these men are quite incompetent for the proper carrying-out of such buildings; but as the arrangement saves an architect's fee the public love it, and the ratepayers vote for it, in their ignorance not understanding that eventually they will be the sufferers.

4. Some architects might raise objections to such a control as involving the trouble of getting their designs passed, not only by one set of authorities on constructive and other matters, but by another body on the ground of "ornato pubblico." (I use the words for want of an English phrase equally expressive.) This might be a serious difficulty to many who profess to be architects without possessing the needful artistic taste. That class would die out under such a *régime*.

5. The ratepayers would object to it as adding to taxation; for such a controlling body of experts should be highly remunerated.

6. Then, again, it may be urged that it has never been the custom to interfere with personal tastes in regard to building on private property, though in our public streets and thoroughfares.

But though custom has been against such a control it may have been merely the antiquity of error, as Cyprian said in speaking of custom, that the fact of its being the custom is no warrant for its existence. The increasing aggregation of population in large centres needs increasing regulation in all matters of public and social interest; and if customs have grown up of which time has proved the unwisdom, then, however ancient, let them be eradicated.

There probably are many other points both in favour of and against such a control which could be pointed out. But on the whole it seems to me that if the larger considerations of public education, culture, Imperial demands, and our national character and taste as it will appear in the eyes of posterity, are weighed in the balance of common-sense with the smaller considerations of individual right in matters of taste or property or greed, cost to ratepayers, custom or inconvenience to the inferior architect, the latter will easily kick the beam.

But were such a control established, the question arises, How should such a body be constituted? Clearly there should be a responsible head of the department, were he a Government Minister or not, and he should be chosen not only for his administrative or political capacities, but for his known possession of cultivated taste, large Imperial ideas and love of art, combined with practical common-sense; and he should not have the power to overrule the committee's decision, of which he would be president.

It goes without saying that the committee should be formed of the best men amongst our Royal Academicians, Royal Institute of Architects and other artistic societies.

The view of a majority of such a council should be final in all schemes, public or private, which affected the "ornato pubblico."

For our Metropolis, in which the whole Empire is interested, such a controlling body should, I imagine, be a Government Ministry of Fine Arts; while each provincial town or county council should have the right to elect their own committees. I suppose each such body should be paid from rates raised in the district over which they exercised control. But these are details apart from the large general question of necessity for control.

These suggestions, however crudely put my ideas may be, please to understand, I have made solely with the view of eliciting discussion, and with the sincere hope that our governing authorities at no distant date may see their way to inaugurate the new century with some project whereby the future architecture of our country may not be left to mere chance or the caprice of irresponsible individuals; but that under a wise control the architecture of the greatest Empire the world has yet seen may not in the future have to suffer by comparison with that of other civilised countries of the present time, or indeed with that of nations of bygone ages.

In the discussion Sir John Taylor and Messrs. Wm. Woodward, Wm. Young, E. W. Hudson, Zeph. King, H. J. Blanc, Ernest Day, F. R. Kempson, Joseph Smith (Sheffield), and Arthur Cates took part. There was general unanimity concerning the President's recommendations.

THE COLLABORATION OF THE ARCHITECT, THE PAINTER, AND THE SCULPTOR.*

I.

By EDWARD W. MOUNTFORD.

FOR some considerable number of years it has been the custom at meetings of the Royal Institute of British Architects, when we are honoured by the presence of eminent representatives of the allied arts, willing to give us their valuable opinions upon matters of mutual interest, that an architect should produce a kind of brief preface or introductory note. This explanation is undoubtedly necessary to account for my having ventured to accept the invitation of the Congress committee to address you on a subject upon which I have no kind of claim to be considered an authority.

The collaboration of the architect, the painter and the sculptor is not only a matter of great importance, but one which is daily becoming more and more deserving of our consideration. There is reason to believe that the public—or, at least, the more educated part of it—is awakening to the fact that good art is both desirable and attainable in our buildings, and that even though this may increase their cost the money is well invested.

The art of architecture is not to be considered as dependent for its perfection upon the assistance of sculpture and painting, as some would have us believe. It is well known that many of our most admired ancient buildings are destitute of either, and the work of our greatest living architect is conspicuously free from any such assistance. Colour of the most beautiful kind may be obtained from the materials used in our work, and it is quite possible to invest buildings with some interest and richness of effect without calling upon the sister arts.

But we shall probably be perfectly agreed upon the great desirability of inviting the aid of our brethren of the brush and the chisel to beautify and embellish our buildings whenever it is possible to do so—which means, in the first place, when it may please our clients to provide the means. This is still one great difficulty, because we must have really good sculpture and fine painting, and, like most other good things, these are expensive. It is the unhappy fate of most architects to have their designs and intentions very much cramped or cut down by the want of the necessary money to realise them, and we have to be content to keep our buildings absolutely plain because bad pictures or bad carving defile a building, and must be shunned like other sins.

Supposing, however, that we have been entrusted with the erection of a building for which there are ample funds, so that we may with a good conscience invite an eminent sculptor and an eminent painter to help in making it as beautiful as we know how. Then we begin to understand that there is some enjoyment in life after all, and proceed to our work with even more than the usual enthusiasm. At the earliest possible moment—that is to say, so soon as the first rough sketches are completed—we shall desire to consult our chosen fellow-workers; and from that time until our joint creation stands accomplished the more frequent our intercourse the better for our building.

It must not be forgotten that the building is the thing, and the architecture is not to become a mere background for the painting or sculpture. They are means to be employed for giving additional interest and beauty to the building, explaining its purposes, its uses and its history or the history of its builders, becoming part of the architecture itself, and not to be thought of otherwise.

The work of the sculptor and painter in relation to a building bears some resemblance to the illustrations of a great book, of which the architect is the author; and just as the illustrator of a book must make himself acquainted with its contents and the intentions of its author, so should they enter into the scheme of the architect and help to make his meaning clear. As some books require no illustrations, while in others they are of great importance, some buildings are complete without the painting and sculpture which in others strongly appeal to people who are quite unable to appreciate the architecture, and take no interest in it.

The resemblance is certainly by no means perfect. An architect in consultation with the sculptor and painter will provide in his buildings fitting opportunities for their work, plain spaces for frescoes or sculpture, or niches for statues, and will, if necessary, arrange or modify his detail to meet their views. Harmony of purpose and oneness of interest between all three artists is absolutely essential, or the work must suffer. It seems to me possible that the architect and sculptor may have more in common than the architect and the painter, working, as they both do, in the round, for though colour also enters largely into the work of an architect, it is not usually the colour of the painter. In any case there must be harmony of style and purpose, and not less essential are breadth and simplicity. These latter qualities have been so much spoken of, written about and discussed lately, that one feels it necessary to apologise for again mentioning them. But important as they are in all design, they are even more so in connection with this subject, so they must come in again. How many buildings has one seen spoiled by over-much carving, often poor stuff that has no meaning, except to cover the poverty of the architecture; but even of good work it is possible to have too much upon a building. It is not difficult to spoil an interior by too much colour decorations, be it painting or mosaic, and there are some modern examples which go far to justify the present taste for whitewash.

Without complete sympathy with the architect a painter may, no matter how great his skill or good his intentions, do much to spoil a work of architecture, either by concealing features the architect may wish emphasised, painting out the construction, as it were, or emphasising others which the architect would prefer to have left in modest retirement. The appearance of mouldings may be quite altered by their treatment in colour or spaces, which were necessarily left plain for the desired architectural effect, may be painted with a design, possibly very good in itself, but quite undoing the intention of the architect.

It is not for me to suggest here anything as to the manner or methods of the painter. Every architect will have his own views as to the decoration in colour of his building, and would fully explain them to the painter entrusted with the work. Very possibly the said views may be quite mistaken, and the painter, if able to convince him of this, is rendering him a very

(*Continued on page* 403.)

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* Papers read at the Congress of the Royal Institute of British Architects on Wednesday, June 20.

NOTES AND COMMENTS.

It was supposed the Théâtre Français would be completed in time for the gratuitous performances given on the National Fête. But as July 15 draws nigh the anticipations of people who believed Paris builders were as expeditious as those of England or America are have been converted into expressions of despair. The city has had to submit to another lesson in disillusionising. To allow a margin for contingencies, it was arranged that the members of the Comédie-Française should have possession of the Odéon until September 1. But it is now evident the new theatre cannot be completed by that time. Where are the actors to go? During the autumn provincial visitors will come in crowds to Paris, and the city will be incomplete if it is without its classic theatre. M. Sardou, the dramatist, suggests that the example of Molière and his troupe should be imitated. They, like many followers of Thespis, were not too proud to disdain a barn. Is it possible to erect a temporary building in the garden of the Palais-Royal, or in the garden of the Tuileries, which would serve the temporary need? It would be easy to adorn the structure effectively, and it could be considered as supplementing the Old Paris of the International Exhibition. In no other way is there any chance of providing a habitation for the Comédie.

Ireland this year is expected to be irresistibly attractive to many English people who have hitherto deferred a visit to the island. The arrangements already made would indicate that the season will be exceptional, and it cannot be objected if Ireland for once obtains a part of the money which is usually expended abroad. On July 18 the annual congress of the Royal Archæological Institute will be commenced in Dublin. The Earl of Rosse, who is distinguished as a student of science, will preside. The Irish archæologists have arranged a series of excursions to the most interesting remains of ancient construction for the advantage of the visitors; and the Irish railway directors, who are remarkable for giving aid towards the obtaining of knowledge, have departed from their usual closeness and will allow of journeys on moderate terms.

A week ago Haarlem made holiday to welcome the Queen of Holland, who had come to that pleasant city in order to unveil a bronze statue of Franz Hals, which was lately placed in the Floraparke. The joyous portraitist was not apparently born in Haarlem, for authorities believe he was a native of Antwerp, but he belonged to a family who were long known in Haarlem, he studied there under Karel van Mander, and he spent a great part of his life in its taverns; he was a pensioner of it, and when he died he left his widow to its benevolence. The intrinsic value of his works, which increases every year, has atoned for the extravagances of his life, and Haarlem is justly proud of being able to claim his reputation as its own. Hals could paint men whom Melancholy had marked as her own—the portrait of René Descartes in the Louvre being a memorable example. But he preferred subjects who, like himself, did not take life too seriously. His portraits deserve to be prized by incipient portraitists as well as by connoisseurs. A course of Franz Hals might serve as a corrective of the excessive gravity which prevails among the portraits seen in Academy exhibitions, and which suggest that we still continue to take our pleasures sadly. The park in Haarlem is well adapted to contain the statue of an artist who loved the society of men and women, and who was loved in return by them.

Boards of Guardians and other local authorities in Ireland have authority, after obtaining sanction of the Public Works Commissioners, to obtain loans and to erect labourers' cottages. It is not always indispensable to secure the sanction of the owner of the site, for in a great many cases landlords do not look with approval on the settlement of labourers on their estates. It is sufficient for the leaseholder to agree to sublet the ground, and the owner's interest can be determined by the valuation of an official. The measure is supposed to be beneficial, but, like many other Acts, the provisions will not resist opposition in law courts. A curious case which exemplifies the vulnerability of the Labourers' Cottages Act came to an end before the Irish Court of Appeal on Monday. In 1892 the Guardians of the North Dublin Union adopted a scheme for the erection of labourers' cottages in the suburban district of Glasnevin. Arrangements were accordingly made with a tenant to obtain half an acre of land. Eight cottages were erected at a cost of 1,200*l*. The owners of the land disapproved of what was done, and applied in the Vice-Chancellor's Court for an order for the removal of the cottages. The objection was based on the grounds that the powers of compulsory purchase under the provisional order had become void before the Guardians took action, that the cottages were illegally erected, and that they should be removed. The Guardians, on the other hand, submitted that, as the landlords did nothing, and as the tenant acquiesced in the erection of the cottages, they should not now be removed. The Vice-Chancellor decided in favour of the owner of the land, and the Poor Law Guardians appealed. The Court of Appeal, however, affirmed the decision of the Vice-Chancellor. The cottages are, therefore, doomed to demolition and the ratepayers will have to lose the money expended, besides heavy law costs. But the rights of property are, on the other hand, victoriously upheld.

Plans have been prepared by Mr. R. M. D. Lucas for the preservation of the Bargate, Southampton, and the increase of the accommodation for the passage of traffic under it. They provide for the restriction of the traffic under the central archway to the electric trams only; the widening of the two side arches for the admission of carriages and the formation of two more arches for the passage of pedestrians, access to the latter to be obtained by means of piazzas, to form which the frontages of adjacent properties would have to be set back. The Town Council have decided that in the next Bill which the Corporation promote in Parliament power shall be sought to acquire properties adjacent to the Bargate compulsorily or by agreement. The Undercroft in Simnel Street, an ancient structure which was lately used for storing potatoes, and which it was proposed to remove, is to be preserved.

ILLUSTRATIONS.

WESTMINSTER ABBEY: MONUMENTS OF DUC DE MONTPENSIER AND DEAN STANLEY IN HENRY VII.'S CHAPEL. HENRY VII.'S CHAPEL, SHOWING PENDENTIVES, ETC.

STAIRCASE, CORRIDOR, ETC.: R.M.S. "OCEANIC," WHITE STAR LINE.

THE ITALIAN HOSPITAL CHAPEL. QUEEN'S SQUARE, LONDON. THE DOME.

THE BUILDING TRADES GIFT. HOMES OF REST FOR DISCHARGED SOLDIERS, BISLEY.

The dwellings for discharged soldiers at Bisley, which we illustrate, have been designed by Mr. Edwin O. Sachs, in consultation with the other members of the executive, and the principle observed is that no home should hold more than sixteen inmates; whilst each pair of homes should be served from a mutual service block, which, besides containing the kitchens, &c., will also afford accommodation for the matrons, nurses, servants, &c. The unit of habitation is hence sixteen, and the unit of service thirty-two. Each unit of sixteen has its own large living-room, its own dining-room, locker-room and a number of bedrooms, its own large verandahs, bathrooms, &c. The two units are connected to the mutual service blocks by corridors, and everything is being so planned as to afford the latest views of hygiene, whilst being thoroughly comfortable. The general recreation-house contains a large hall, workshop and commandant's residence. There is also a small church, a laundry and electric-light station, for which collections have been made in the electrical trade only.

The drainage system is being laid down, the buildings fenced in, and the gifts even go to the extent of providing granite slabs and asphalte paths in the grounds.

As regards the period of construction, it is hoped that the homes will be open at the end of the year, if not earlier, and the furnishing is to be kindly arranged for by Mr. Sam Waring, who has himself presented furniture for one entire home, and the only point that will then remain is to lay out the gardens for the coming spring, and thus complete what will be the only monument in Great Britain in which one great trade has combined, masters and men, in setting up a building not only worthy of the donors, but eminently worthy of the cause.

(*Continued from page* 401.)

good service. May I say that to me the pictorial treatment of a flat ceiling seems a great waste of time and skill? It is not usual in good society to lie upon the floor, and yet this is the one position in which a ceiling so painted can be properly seen. Even then the positions of any figures in the painting are impossible and absurd unless the painter has represented them flying in mid air with the soles of their feet and other portions of the body not usually seen made unduly conspicuous—which treatment, however skilful, is scarcely pleasing. Such ceilings are for the sculptor if the architect desires some assistance to invest them with artistic merit.

It is hardly necessary to maintain that a painter by bringing atmosphere into his mural work, treating his subject in a thoroughly realistic manner, simply destroys the architecture. Happily most English painters understand decorative work too well now to do such a thing except in specially prepared panels. A considerable amount of conventionality must be employed.

With the sculptor the architect has to discuss not only the subjects of his work, but the materials, the scale, the amount of relief and the jointing of the stone. The small scale models which the sculptor will prepare may be most usefully extended to embrace as much of the surrounding architecture as possible, and the architecture will probably greatly benefit if this course be followed.

Sculpture I regard as being much more a necessity for important buildings than colour decoration, which is rather a luxury seldom to be attained. Moreover, being much less appreciated by the general public than painting the cost is less. Probably of every hundred people that are "fond of pictures" less than twenty take any interest in sculpture, and certainly not more than five care anything about architecture. And the Royal Academy, as well as Her Majesty's Ministers, exactly reflect public opinion in this respect, which accounts for many things.

There is one small point with respect to the use of sculpture which is worth a little consideration. It is not unusual for a statue, large or small, to be placed upon the summit of a tower or the apex of a lofty gable, but the result is often not happy. A plain moulded terminal would generally look better and cost a great deal less, while the money so saved could be used with much better effect upon some less elevated part of the building. My objection does not apply so much to figures placed along the parapet of a building of moderate height, which can be seen only from the front, although even here a background of masonry is better than one of sky. But isolated figures at a considerable height from the ground nearly always look unsatisfactory from at least one point of view.

As regards the use of both sculpture and coloured decoration, I have a strong suspicion that many of the old buildings of Italy and elsewhere that we now so justly admire must have aroused quite different emotions in us had we seen them when fresh from the mason's hand.

In conclusion, may I be allowed to express my appreciation —which is shared, I am sure, by all architects—of the manner n which Sir William Richmond referred to the art of architecture in his recent speech at Bath? It would be well for all kinds of art if his opinions were more generally held, and one can but wish that his fellow Academicians should read and endeavour to understand all that he said.

II.

By Sir W. B. Richmond, K.C.B., R.A. [*H.A.*]

A paper written to be read in ten minutes should, I think, be both terse and suggestive; it certainly cannot pretend to be exhaustive. Its object should be the promotion of intelligent, even warm, discussion. If this paper is abrupt in its transitions as well as in statement of my views, the foregoing reasons must be my excuse for such defects. We all desire closer union than now exists between the three great arts, as well as a more intimate conjunction with them of the lesser arts and crafts.

It is the wish of all of us that the spirit of the true artist should preside over all our labours, great or small—a spirit which induces spontaneity of design, and which prompts sincere endeavour to carry it out with clearness, which shall be the expression of ourselves, and therefore with style. Style is what is wanted, and is so often absent—the impression of the mind and hand of the artist. Of "styles" most of us weary; their use more often than not implies absence of invention, and is but an attempt to revitalise corpses. Rather than follow them ought we not to be bound by the requirements of our age?

The collaboration of the architect, sculptor and painter ought not to be difficult. To be successful the architect should not interfere with the sculptor or painter, *qua* their designs; this he will not need to do if his style is his own, for if they are true artists, all of them, they will give and take according to the requirements of their arts as well as for each other's art. They will each respect the other's province, that of the architect as the designer, or builder (as Wren is named upon his tomb), of the structure, of the sculptor as the designer and carver of effigies, ornament and its attendant parts, of the painter, the designer and executant of the pictures, their borders, &c., and their colour scheme.

But both sculptor and painter must give way to the architect upon matters of scale, of proportion of part to part, so that their work shall be harmonious in scale with his; of quantity, of projection, whether in the round or relief, of the fairness or depth as to tone, of the painter's scheme. So will they labour in harmony.

While architects insist upon "styles" they will get no first-rate sculptors or painters to aid them or to work with them. For the adornment of "styles" they have to continue to go to "firms" where they can be provided with as many shams as they require, all quite lifeless and hopelessly out of touch with the movement of this, or for the matter of that with any period, because they do not reflect it.

As long as "styles" are abjectly adhered to, art must remain dead! No artists, as far as we know, imitated the work of their predecessors; they wrought in the vernacular of their environment. In recent times Viollet-le-Duc, admirable antiquarian and voluminous writer, has given an example of the inevitable failure which must attend upon "styles" of decoration in many of the churches of France. Witness his cartoons in the Louvre and his wall paintings in Notre-Dame, about which nothing can be said but that they are wholly uninteresting.

Santa Maria Novella, in Florence, is a nest of anachronism according to the modern standard. The wall paintings there by Cimabue, Gaddi, Giotto and Ghirlandajo, and by later painters also, are side by side. Ghirlandajo did not paint in the style of Giotto; he painted as his period dictated. The west circular window contains glass of the early fourteenth century; the west window is late fifteenth in the style of the period. Side by side are monuments which date from the fourteenth to the seventeenth centuries in the style of the period. So the church, as it were, breathes history from its walls; its monuments and paintings are sincere demonstrations of their authors' originality and spontaneity. This is one instance out of hundreds which might be brought forward that proves the universal law that no art is really valuable which does not emanate from the spirit of the period which gave birth to its author. It is because of its sincerity of purpose that art interests us. Fancy Ghirlandajo decorating the portion of the church assigned to him after the manner of Giotto, or Giotto in that of Cimabue, because Cimabue painted on the walls of the church at the time of its erection; they would not, could not have been such slaves to pedantry.

As soon as architects design original buildings—which, by the way, here and there they do, irrespective of severe canons of proportion and orders, but structurally consequent and individual—they will find plenty of sculptors and painters to work with them; but as long as they design in styles no original men will be slaves to them; they must continue to get the adornments for their structures from "the trade." Is not it a mistake to specialise early? The young painters—indeed, the old ones also—know nothing or little about architecture; nor is the young sculptor made aware of the position that his work ought to hold in relation to spaces. Neither does the architect get a chance of working in conjunction with sculptors and painters, who should be his colleagues in his earliest days of training; they are brought up separately and they remain separate; consequently neither their interests nor sympathies are current.

Finally, of course, the architect is the responsible person; therefore he should be a thoroughly equipped artist. Would it not be possible to avoid too early specialising? How few architects there are who know anything about colour! How few painters are even indirectly interested in architecture, and how few sculptors learn to be an attendant upon architecture! And what a loss it is to each that he is so ignorant of his sister arts!

The great men of past times were rarely specialists. Every one knows that Giotto was painter, sculptor and architect. So was Raphael, so was Brunelleschi, so were Michel Angelo and Leonardo. Pheidias was the son of a painter, and was educated in that craft; Ictinus was a sculptor as well as an architect. I suspect they worked harmoniously, and no doubt whoever designed the colour scheme of the Parthenon did so in conjunction with his colleagues.

The well-equipped designer is able to cover a large field of action. If he can design in one material, why not in another? None of the techniques are so enormously difficult, either of building, carving or painting, that they cannot be acquired by patience, given the artistic temperament. It is the artistic use of techniques acquired by experience which succeeds, or the reverse, in exact relation to the quantity of intelligence and judgment that have been put into it.

Our age is one of "harking back"—archæological more than creative. Certainly this applies to architecture. But in the arts of painting and sculpture such a term applies with far less accuracy. The best work being now done in them reflects the spirit of our time. Do the majority of our buildings do that? Does the Tower Bridge reflect our time, for example? When architects do so the sculptors and painters will almost automatically come into touch with them, and the crafts also with them.

To reiterate: no original designer, painter or sculptor would execute in the thirteenth, fourteenth, fifteenth or sixteenth century style to satisfy the pedantry of an architect, though if he had made an excursus into any of those styles he might be able to do so; but if he did, his work *qua* art and style would be quite valueless. The sculptor makes statues, the painter makes pictures; they do not design them only. Should not the architect make buildings? And just as the painter and sculptor learn anatomy, should not the young architect be apprenticed to a builder, that he may learn the anatomy of his art and become in the highest sense a builder?

I confess to thinking that art education cannot be commenced too early or be too broad and inclusive. Specialism would follow according to the bent of the student's capacity.

Should not a young architect practise decorative painting and sculpture up to a certain point? It could do him nothing but good. And the same principle should, I think, apply to the education of sculptors and painters; early instruction concerning plan and structure could do them nothing but good.

Advanced students should, I think, be encouraged to collaborate. Given a model designed in conclave, made by the architect, to be sculptured by the sculptor and decorated by the painter, how interesting such efforts would become! What a stimulus they would give to the three arts! Each student having thus become conversant with the arts of his colleagues would be in a position to criticise as well as to appreciate them.

The three arts would thus grow up, as it were, together; they would not be strangers to one another. The great mother of the arts, architecture, would take to her children again, who have separated from her, as she has from them, to their and to her privation.

The purist may imagine that Greek temples, Early and Late Gothic churches, or even Early Renaissance, were bald and colourless; but they were not. We know, on the contrary, that they were highly coloured and decorated, probably with what we, with love of faint anæmic tints, would call crude colours. And modern buildings may be decorated with strong colours. Why not? Crude colour soon tones down if the shades are harmonious.

Purity does not reside only in form; form is not its only exponent. Colour can be rich, splendid, strong and yet be chaste. Chastity is not weak and anæmic, it is the sign of vigour and strength. Sculpture may be coloured even vehemently; painted woodwork, marbles, gold and other metals can be introduced lavishly without one jot of purity being injured. But such a revival cannot come all of a sudden; we have to become used to experiments: these may be uncommon, unconventional, and as such they must take time to become established in and recognised by the public mind.

We have the material, minds and matter for the most rich and splendid work, but upon account of the divorce of the three great arts and of the crafts from them more or less that material is only serviceable within a narrow range and under unduly restricted conditions. Once get young students, architects, sculptors and painters into touch with one another's art, and a really vital school will spring up with astonishing quickness. Architects will then take their proper position as artists and sculptors and painters with them in conjunction. Pedantry and its near relative dulness will cease to exist; painting will no longer be considered as "The Art," and the other two as minors. To the attainment of this end we should, I think, struggle, an end which means union, wherein there is strength, share in the struggle and help, not hinder, each other's efforts. It is not precedence that any of us desire, but concord, mutual progress and unity. We are individually striving to render England more beautiful; let us try to do so collectively; let us strike out for freedom, not licence, but freedom based upon the only sound foundation, sincerity, combined with knowledge of the various branches of what after all is but one art.

III.

By E. ROSCOE MULLINS.

IT may well be that a sculptor will approach the subject of the collaboration of architect, painter and sculptor from rather a more stringent point of view than would a painter; for whilst a painter can and does develop his art alone, independently of the other arts, requiring only house-room, his art not suffering if so separated, it is otherwise with sculpture A sculptor, I maintain, is only truly working out his art in it highest conception when he is working in unison with architecture, and is controlled and inspired by its conditions and limitations, and in so far as the willing hand of architecture is not held out to sculpture, the art suffers. The natural and rightful place for sculpture is in connection with or upon buildings, which it should ennoble and beautify by its presence; the treatment of sculpture should depend upon the particular lighting that the chosen position and the surroundings would give it, and much of its shape, arrangement and effect must be due to the space allotted for its filling.

This is not, I know, the popular view of the art, but that it is the true one a glance at the past great periods would prove. I can only, in the short time allowed me, give this glance; but detailed inquiry would bear out my statement. There is hardly a work of sculpture in the British Museum that is not decorative in the true sense—that is, work that was applied to buildings, executed for buildings, of which the beauties can now only rightly be appreciated by recalling the buildings they were designed to decorate. In the days of the Renaissance it was equally so: Michel Angelo, Donatello, Luca della Robbia, Ghiberti, all collaborated with architects, and their best work was done for architecture. In the Gothic days, too, this truth is equally apparent, which a visit to the chapels and tombs at Westminster abundantly proves.

It is only in these days that the direct union has been lost, and the art has been conceived as standing alone—*freistehende*, as the Germans say—and, like painting, thought to be free and independent. Nothing has fostered this false view so much as the prevailing custom of exhibitions, and I must also add museums, for in both we see sculpture isolated, in no connection with the place it is designed to fill. In exhibitions we accustom ourselves to a standard of isolation, forgetful of the main purpose of the work: that is, its surroundings and the causes of its shape and treatment. This aspect is lost in the æsthetic admiration of the work alone. Decoration in former days did not mean a mere filling up of space by some stone-carver or so-called monumental sculptor, but rather the representation by the nation's most gifted sculptors of the stories and legends believed in by the people, and executed in such a manner as to enhance the beauty of their national buildings, and make complete and explain what would otherwise be bare and unintelligible. This was decoration in the past. How differently in our own day is decoration understood, when it has too often come to mean merely endless repetitions of meaningless ornament, as suitable to a tavern as to a church!

To show the evils of backsliding, we may note the tendency of sculpture, when separated from architecture, in the popular form it takes at exhibitions, to develop into a species of bric-à-brac and *objets de vertu*—statuettes rather than statues, coloured combinations of assortments of stones and jewels, surface treatments of realistic skin-folds, and often ugly renderings of nature—anything, in fact, but work possessing the properties of true sculpture, which should depend upon breadth and knowledge of light and shade and simple massing of form. In our Royal Academy the influence of the painter is felt on sculpture instead of that of the architect, and the result is scarcely satisfactory. It is natural that truthfully-modelled surfaces, literal renderings of nature and combinations of colour, would have more weight with a painter than with a sculptor; but in sculpture such tendencies conduce to realism, and the closer the imitation the less is the art displayed. Too often the work, when done, is only suitable to become part of a rich man's collection of isolated treasures, that only the few therefore can possess, rather than fitted to belong to the nation as a whole, as it could do if it were executed for public buildings.

There is one other evil I should like to mention, to which the sculptor is prone if he is detached from architectural control, and that is making the search after beauty as his one aim. To me it always appears that no theory that has been advanced has done so much to destroy individuality and original talent as this loadstone of beauty. An artist who is seeking for beauty alone is as a man seeking for happiness—a desirable end to attain, but never attained by directly planning or searching for it. And it is the same with the attainment of beauty in sculpture; the end is only reached by having some more definite object in view, while the vague search for beauty only leads to imitation and trite conventionality. Let the immediate purpose of the work, however, be simply the desire to tell a story in the best possible way, and to adapt it to the place that the work is to fill, then the element of beauty will still possibly be there, without striving especially for it, and at any rate the work will be stamped with individuality.

Perhaps the time when least attention was paid to architectural decoration was at the beginning of this reign, when sculpture was represented in this country by Gibson; and his work shows the effete result of a one-sided striving for beauty that ended in the neglect of nature and the adoption of a pseudo-classic treatment, uninteresting and unmeaning to us Englishmen of this century.

Since that time we have advanced in the right direction, and some of our best sculptors' work can be seen on buildings, forming part of a whole scheme and helping the purpose of the buildings for which they were intended. But though we have moved in the right direction, there are yet misconceptions to remove before sculpture can be fully applied in its true field as the co-mate of architecture. This is brought home to us when we note the one form of sculpture that we may say is fairly tolerated in England—that is, portrait sculpture. Supposing we accept this form as characteristic of the nation—and I fear we have not yet risen to things higher—can we say, except in a few instances, that we have succeeded in portraying the individual man? I think not. The very size in which we depict him—I refer to outdoor statues—is sufficient to prevent the sculptor from giving an individual rendering of his subject. He is content if he succeeds in getting a portrait of the face, while to the figure he gives general classic proportions, so that we have individual heads on our statues that would fit equally well on any other statues' bodies and legs.

Now if these portrait statues had been designed to fill niches or stand in courtyards, or to be placed in front of buildings, of which they would then form part, the size of the statue could be diminished, and attention given to the portrait of the man as he is, or was, not merely in face, but in figure. I maintain that no portrait statue should look more than life-size; it ought, that is, not to strike the observer as abnormal; the extra size that is given should be due only to the necessity of the surroundings, and the height at which the statue is placed. I think the only form of sculpture that will stand the test of isolation is work with strong action, as some equestrian statues, and ideal work that is not subject to the restrictions of modern dress; but even these are improved by a background at least of trees.

This association with architecture would open other fields where the sculptor's art could assert itself, and where the nation's desire to perpetuate the memory of her great sons could be encouraged. For instance, a hall of heroes, a walhalla, would be far more interesting and instructive, where the deeds of the great could be recorded, and where the whole building could be devoted to that end, than is the prevailing custom of thrusting statues, as we do now, into Westminster Abbey and other noble buildings not designed for them, where they are void of meaning, and destroy instead of adding to the beauty of these buildings. In a modest way too, I think there is room in our cemeteries and churchyards for a happier union of the two arts. Most of the sculpture we see there, besides being commonplace in design, is often vulgarly obtrusive; yet I think a cemetery should be a home for good sculpture, and it could be made so if the sheltering hand of architecture were there too, to give restraint—a necessary element, and especially appropriate in a place hallowed by the association with our dead.

In so short a paper it would be out of place to enter into matters of detail, and I think, even with unlimited time at my disposal, I should hesitate before laying down any rules or restrictions as to methods of work or treatment of subjects. One might with equal right prescribe the style in which an architect should build. The only two conditions I consider essential are that the sculpture, whatever its character and wherever placed, should be seen in its entirety, and the form the work takes should be the suitable one for the position; not, as in the case of the frieze that runs round the Athenæum Club in Pall Mall, and again over the gateway at Hyde Park Corner, which are copies of the well-known Panathenaic frieze of the Parthenon, but which are placed under quite different conditions of light and position than those that guided the architect and sculptor of the Greeks in their choice of the style of relief.

In decoration the sculptor should assert his own individuality, and not be bound by effete laws of design; there is no other golden rule to follow, to insure interest and vivacity, and interest and vivacity are two of the three elements necessary to all true decoration. The remaining element is the sense of restraint alluded to before; for although the spectator should be conscious of the expression of movement, yet he craves at the same time for repose, and this is added by the restraining force of architectural surroundings. This restraint, instead of hampering the sculptor, really brings out the strength of his art, and shows its manifold capabilities of adaptation to required ends.

To sum up, I have intentionally dwelt upon the advantages accruing to sculpture rather than to architecture in this desired union of the two arts, and have left the gain, that would belong to architecture, to inference only. This I regret the less, as that side of the question has been fully entered into in the wider treatment accorded by the reader of the previous paper. The points I would insist upon are these: that it is against the best traditions of the past to divorce the arts of architecture and sculpture; that this divorce leads to a low estimate of sculptural decoration, as well as to a want of direction and meaning in the sculptor's work; that gallery exhibitions of isolated works belittle the art of sculpture; that portrait sculpture is shorn of its character and truth, which can only be truly given when incorporated in a wide scheme of decoration. For these reasons, therefore, I maintain that a healthy demand for sculpture and a capable and satisfactory development of the art can only be attained by returning once more to the traditions of the past and effecting a closer union of the kindred arts—architecture and sculpture.

THE IDEAL CITY—PARKS AND OPEN SPACES.*

IT is difficult in the course of a quarter of an hour to speak of work which has been going on in our country for several centuries, or rightly to convey any idea of the magnitude of the need for open spaces and the various manners in which succeeding generations have endeavoured or have neglected to meet this need. The tendency to congregate into towns has always been in existence, but there has also been a corresponding desire on the part of the people to spend their holidays and the unoccupied hours of their working days in the fields and amongst the trees and hedges. The early chroniclers of English history describe all manner of sports in the fields, the making of spring garlands, May-day feasts and rejoicings in the woods, and many pleasures and pastimes on the open lands, the moors or commons, surrounding the towns and villages. The "open-space movement" has been represented during the past three or four hundred years by innumerable struggles to keep free from encroachment such public lands as the Moorfields, on the north side of the City of London, and the commons, heaths and forests throughout England, by ancient enactments limiting the increase of towns and the proximity of houses, by the opening of the royal parks, by the formation of square gardens and pleasure grounds, by the provision of forecourts or back yards to both small and large houses, and by public and private benefactions and legacies of lands to be dedicated to the people as village greens, commons, parks or allotments. During the nineteenth century, when the development of the towns became so extraordinarily rapid, a more vigorous effort was needed to provide breathing spaces for their inhabitants; and since the year 1847 many Acts of Parliament have been passed relating wholly or partly to the preservation, acquisition or maintenance of open spaces. Voluntary societies have come into existence to preserve or provide public recreation grounds, with the result that large parks and commons have been secured in and around our towns, churchyards, squares, and other small spaces have been laid out amongst the streets, while trees have been planted and seats have been placed in the public thoroughfares. But the ideal citizens of an ideal city would not be content with such spasmodic efforts and such varied methods of procedure. They would provide open spaces in a systematic manner from the time of the commencement of the building of their cities. And I can only hope to throw out a few hints as to the way in which this might be accomplished.

The plan so much in vogue some fifty or one hundred years ago of building houses in "squares" has much to commend it. But such squares should not surround gardens enclosed with railings, to which entrance is only allowed to the tenants of a certain limited number of houses. The square gardens should resemble the continental "places"—open day and night, provided with grass, trees, fountains, flower-beds and seats, and, like the surrounding streets, under the control and patrol of the police. The wider roads should be planted with trees, either near the houses or in a double row in the centre of the carriage way; this would afford shelter in rain and shade in sunshine. All the public elementary schools should have good playgrounds attached, open to all comers out of school hours; and in addition to these there should be separate spaces, playing-fields or open-air gymnasia, provided for children, with proper instruction in the use of gymnastic apparatus, so that it might be impossible for any house in the city to be situated more than a quarter of a mile from a public playground. And these playgrounds should be attractive as well as useful, with a part set aside for trees and shrubs, flowers and seats. No large division or ward of the ideal city should be without its park, capable of being illuminated by night, where broad expanses of grass might be seen, and where stretches of water in lakes or streams might bring refreshment to the eye. The public seats should be in groups, in well-lighted parts of the thoroughfares; the drinking fountains and troughs should be artistically designed and pleasant to look upon; outdoor annexes to the restaurants should be encouraged, and every effort should be made to beautify the streets—not monotonously, but with taste and variety, and above all to preserve the natural beauties of any space or garden which may be secured for the people.

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* A paper prepared by Mrs. Basil Holmes, hon. sec. of the Metropolitan Public Gardens Association, and read by the Right Hon. the Earl of Meath, chairman of the Metropolitan Public Gardens Association, at the Congress of the Royal Institute of British Architects on Wednesday evening, June 20.

What may be termed the modern open-space movement started before the close of the first half of the nineteenth century. The late Sir Edwin Chadwick, that great pioneer of sanitary reform, made a report in 1842 on the "Effect of Public Walks and Gardens on the Health and Morals of the Lower Classes," and he then used the phrase "open spaces." He also advocated the preservation as public land of the burial grounds in towns when they should be disused. It was greatly due to his careful investigations and reports that most of these graveyards were closed in 1853 and the succeeding years, although another twenty-two years elapsed before any of them were converted into public gardens. Now, in London alone, there are over one hundred open to the public, nearly all being attractively laid out. Some of the square gardens have also been thrown open, notably those belonging to the Duke of Westminster (owing to the wisdom and generosity of the late Duke) and those on the estate of the Marquis of Northampton, and they now number, in London, twenty-seven.

I need hardly dwell on the very great success that has attended the work of the Commons Preservation Society, the Metropolitan Public Gardens Association, and the Open Spaces branch of the Kyrle Society. These agencies have, by their labours and their example, stirred up such public authorities as H.M. Office of Works, the London County Council, the Metropolitan vestries and the provincial county councils and municipal bodies, until now it is possible to say that the desire to acquire open spaces or recreation grounds is universal, especially in the towns and their suburbs. It is still a little difficult for village communities to understand their need of securing definite playing-fields or public gardens when there is no green or common for recreation; but the idea has taken root in the towns, and will in time extend to the villages. Full powers are now given to these public bodies and to trustees of private estates to give, to acquire, to lay out or to maintain open spaces, and information on any point connected with this subject will be gladly supplied by the Secretary of the Metropolitan Public Gardens Association, 83 Lancaster Gate, W. And here I may add that organisations such as this one, which during the past seventeen and a half years has carried through upwards of four hundred successful undertakings, are much needed in the provinces. A few of the larger towns have their open-space societies, but in most of them there is no voluntary effort. Many officers of municipal bodies are strangely ignorant of the powers these bodies possess by law, and are glad of information from those who can supply it. Again, it is often possible for a voluntary body to bring some particular case to the notice of the local authority. It is heard of privately, and the society can carry out preliminary transactions of a private nature and save an open space which might otherwise be lost. The members of a public body, who have a score of other matters to see to, cannot be always on the watch for opportunities of securing open spaces or of preventing illegal encroachments, or of beautifying the streets. It is the sole business of an open-space society to do so; and such a society, working in a friendly way with the landowners of the neighbourhood and the members of the town or district council, can do an immense amount of useful work with but little expenditure.

There is much room for improvement in the way we build our towns and allow our suburbs to stretch out from them, ruthlessly swallowing up the rural surroundings and picturesque estates. But if the public mind is educated to the idea of preserving what is beautiful and of cultivating what is wholesome, if landowners will only realise that the value of building land rises in proportion to the amount of timbered open space adjoining it, if people will understand that the more recreation grounds there are the quieter and less crowded each one will be, I feel sure that the architects of the future will so arrange their buildings as to preserve trees instead of destroying them, and that the cities of the future will no longer be vast accumulations of monotonous rows of houses, but will be interspersed with smiling gardens and healthy playgrounds, and surrounded by parks and woods and playing-fields.

STREETS AND BRIDGES CONSIDERED IN CONNECTION WITH OUR UNIDEAL CITY.*

I WISH to preface the few words which follow by admitting that I cannot pretend to emulate the positive Idealism of Mr. Richards. I have therefore ventured to adopt a somewhat negative method by considering our streets and bridges as we find them—a practical, if somewhat mundane standpoint. But it is one which will reveal my own ideals, and, I trust, also yours.

The very limited time at our disposal for the discussion of two very large subjects tempts me to the method of a recent manifesto by a notable politician in retirement, whereby the soul of suggestive brevity seems to lie in the promulgation of abstruse queries, answerable by each man for himself. Thus, in regard to my first subject—

Shall our streets be straight or curved?

Shall we adopt formal architecture or the picturesque, or is indeed Palladian the only possible?

Do we approve of Haussmannising ancient cities?

Are boulevards beautiful and entirely conducive to the dignified display of architecture?

Is the dignity of our streets to be measured only by their width or the height of the buildings?

How can we prevent the finest building sites passing into the hands of the architect speculator, whose productions are too often a menace to the continued sanity of those who care, and sometimes it seems also of those who are responsible for their stability?

How far shall street architecture or our public monuments be controlled, as in Paris, by a central authority, and how shall that authority be constituted?

How shall we inculcate a proper appreciation of those priceless memorials, both great and small, which link our ancient city with its great historic past? In other words, how best combat an uncompromising utilitarianism?

How can we instil into county councils and corporations dealing with vast architectural problems an intelligent appreciation of the accurate procedure which will ensure certainly successful results without doing indignity to our art or our honourable profession?

All these and many more springs of useful inquiry I commend to each one of you, believing that Lord Rosebery's method is perhaps more useful to us to-night than that of Socrates, and that individual taste and openings for a varying treatment under varying circumstances will help us to more fertile discussion as well as to more fertile result than any suggestions I might be able to lay before you within those limits of your time which I am permitted to occupy.

Intertwined with—indeed, comprehending all these queries—is the one, "How can we interest and instruct the public in architectural scholarship?" This Mr. Reginald Blomfield will deal with to-morrow, but it suggests to me to declare to you my devout belief that the finest street is not the widest street, and not necessarily even the airiest street, nor the one best adapted to traffic, but first the one which has the most beautiful buildings beautifully placed, and that every step taken in pursuit of our glorious ideals of light, air, safety and convenience, which has, even in attaining these, turned us away from this more glorious hope and more desirable goal of beauty, is a step lost and an opportunity wasted. In which connection I will make my only reference to the archæology of this wide subject, and bid you compare La Rue de Fèves at Lisieux with our own airified and widespreading Whitechapel.

The chapter of lost opportunities in our streets is indeed a long one. So often might some beauty in small as well as large things have accompanied usefulness, and we may range in our quest from the Tate Gallery to the cabman's shelter, from the cast-iron trimmings of the Tower Bridge to the cast-iron tunic of the London policeman. Most true it is that all the multifold and pressing necessities of modern city life in our streets combine to show us what we are in our appreciation of a city's dignity: the monuments, the signs and advertisements, the open spaces, the trams, the omnibuses, the lamps and lamp-posts—aye, even the post-boxes and the peelers, to say nothing of the telegraph and tram wires. Who shall say that we have educated our appreciations in these matters? or that they have not a large bearing upon our external city life, as we would wish to see and let others see it? To take an instance. The lamp-posts of formidable design cannot by night destroy the decorative chain which seems to thread together through the maze of London streets; but what might those standards have done to enhance it by day had they been produced from a design of graceful simplicity? There seems an opening for better things in the recent Act obtained by the City, conferring the power to place lamps and wires upon house fronts. But how can any self-respecting householder (save he who holds a "public") welcome upon his house front a lamp designed in the same spirit (to give three examples) as the new arc-light standards of the vestry of St. Martin's, the drain ventilators which tower in unsupported hideousness along the Chelsea Embankment and elsewhere, or those bloated posts, whose nightly office it is to cast lurid gleams upon our most admirable Whitehall Charles I., designed as these are to dwarf and disfigure the proportions of pedestal and statue. To the official mind every statue seems in need of these overpowering torch-bearers, and with Charles I. and Lord Strathnairn thus officially glorified, we may expect to behold the Duke of York and Lord Nelson each with his quota of proportionately prodigious satellites, lest perchance we may overlook some shade of our heroes' sky-seeking glory when we stand to study these things upon starless nights or in November gloom.

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* A paper by Mr. W. D. Caröe, M.A., F.S.A., read at the Congress of the Royal Institute of British Architects on Wednesday evening, June 20.

Further, let me instance the lack of imagination we display in the laying out of open spaces, often cleared at great cost. Are asphalte and latrines either satisfactory or picturesque when they appear as the exclusive features, perhaps eked out with a 5*l.* penalty seat? I am not claiming much for that profession of which I am proud to be a humble member, when I say that there are scores of able designers within it who could show how such things might be better done if only they were given a chance.

And what of the signs and posters—those aching sores—the poor man's picture gallery?—so claimed by his false friends and tasteless toadies. This is a matter upon which I must refer you to Mr. Richardson Evans, the kingpost of that admirable society called "Scapa" (the Society for Checking the Abuses of Public Advertising), of which I doubt not every person in this room is (or ought to be) an active member. Mr. Evans has most lucidly illuminated this question from time to time in the public press and elsewhere, and has aptly directed much needed attention to the disfigurement of our streets and street architecture by aggressive and unnecessarily wanton letterings and trade signs, illuminated and otherwise. But, in brief, let us clear our minds, and cease canting about the poor man's pictures and the rich manufacturer's glorious liberty of puffing (at our expense) his name and his nostrums. Shall we not rather assure ourselves that the wanton and vulgar disfigurement of our streets can only increase the vulgarity of those who are so constituted as to appreciate such things? and let us vote at least that, if they must be, the wealthy puffer shall be taxed highly for the infliction of his puffs. In our ideal city, where all our street architecture will be beautiful, will we admit such imposition unheeded? In proportion as we take no pains to regulate the monstrous vulgarity of our signs and hoardings, do we confess our lack of care, of pride, and of instinct for civic dignity and progress.

It would be inappropriate to deal with this subject of streets without special reference to the great new thoroughfare and the opening out of the Strand by the London County Council, the largest enterprise of its kind recently attempted, and one which may be fruitful of much that we desire. Here we may perhaps turn our backs for a while upon Lord Rosebery's witful method in at least formulating hopes for the final direction these new opportunities may take.

The question of straight streets or curved arises when the plan concerns new cuttings to be made, not the following or widening of old thoroughfares, formed as they mostly are upon the curved lines of once wandering country lanes or dykes.

Now the cutting of a straight street through a district, already irregularly streeted, at once lands us in the difficulty of all kinds of awkward and canted corners. Nothing can be more unhappy than the sudden ending of a large building in a sharp acute angle. Instances are numerous showing how this important point has been neglected through a lack of architectural instinct in the initial laying down of new streets—in many instances where it is clear that a very slight change of plan might have brought about results as much more desirable from a practical as they would certainly have been from an architectural point of view. I would make an incidental point upon this head—that however experienced in practical considerations may be the permanent official adviser to the local authority, yet an architect of repute and sound judgment should be associated with him in the conception of new streets. I would desire to insist that a graceful sweep, whereby awkward corners and angles are avoided, is better than the sacrifice of everything, even in the main thoroughfare, to mere straightness. I would further bring forward the simple suggestion of sweeping old side streets into the new main one in such a manner that graceful junctions are secured, which seems indeed an elementary expedient, but not one on that account the more observed or the less important.

I personally concur unhesitatingly in the desire expressed by the London County Council for a monumental treatment in dealing with the Strand Island and its approaches, and would gladly see such treatment continued as far as Holborn. But a monumental treatment need not mean the continuation of one uniform design throughout the whole length. Might not each block between the intersecting side streets be treated separately as a whole, it being essential in this case (as it is indeed in the whole matter) that the exterior, at any rate, of each such block should be under the control of one competent architect? Thus we might secure a result at once monumental, varied and interesting, and not of a more than Parisian monotony. To some extent a similar dealing with broad frontages was adopted by the late Duke of Westminster in Mayfair, and but for the fussy influence of the terra-cotta craze, which happened to come at an unfortunate period in the development of the scheme, the work done might have been even more successful than it is. In their scheme, however finally attained, the London County Council must bear in mind rigidly to control the future alteration of façades and roofs, as well as their erection, or we may get a repetition of Regent Street, where excellent intentions, also upon the lines I have indicated, have led to disastrous results, in the hands of unsympathetic or ill-trained modern maulers and re-designers.

I must not in this city of London conclude this part of my paper without brief reference to that most brilliant example of skill in the laying out of a city as proposed by Sir Christopher Wren for the rebuilding of London after the Great Fire of 1666. This is deft indeed in the avoidance of those errors to which I have referred. The introduction of polygonal figures concentrating upon important points is so cleverly conceived that I have had the plan printed and handed round the meeting, so that those not already intimate with it may study it for themselves at leisure. It forms a more complete paper upon the subject than any I could devise to lay before you, and shows how in skilful hands ancient sites, boundaries, gateways and streets may all be brought into order and made to contribute to an ideal whole.

There is no subject which excites my architectural instincts, pleasures or regrets more than the contemplation of a bridge, be it of stone, wood or iron. There exists what I venture to call a practical poetry about such a structure, nobly conceived, appealing to all those subtle senses set in motion by architectural appreciation. And it is not to be gainsaid that every age up to our own which has included bridge-building among its arts and sciences has unequivocally recognised this fact. I recall to you in support of this statement the numerous examples, from the Roman era onwards through Mediævalism, which loved to hallow the bridge by the chapel, down even to our own London Bridge. And while it is also true that the inspiration which has ever pervaded bridge-building has not left untouched some of our earlier engineers—among the honourable roll of whom I would name, in the manner of the happy Venetian precedent, Rennie of London Bridge, Telford of Menai Bridge, Brunel of his Cornish trestles, Adams of that exquisite Eskutér Bridge at Buda-Pesth—yet it may not be denied that with the change from the direction of the architect to that of the engineer has come that lack of appreciation of beauty and fitness resulting in those hideous bridges which disfigure our roads, our rivers and our railways.

Not for one moment do I depreciate the vast benefits to the human race conferred upon it by modern engineering skill. Had they only been as artistically successful in constructing their bridges as English engineers have been in the outward forms of their best locomotives we should have no complaint, but only admiration for all their work. But the problem was not the same. Quite absent from the locomotive, into the engineering problems of the bridge enters the element of architectural scholarship; and this the engineers have, with a few noble exceptions, made no attempt to master. When the importance of an architectural treatment has been recognised it seems generally to have been relegated to the office sweeper, who has swept up the torn pages of mutilated text-books or manufacturers' catalogues and failed to consign them to the waste-paper basket. Albert Bridge, Battersea, Blackfriars, Charing Cross, Cannon Street, Chelsea, are specially our A B C of how not to build bridges; and Vauxhall brings us nearly to the other end of an alphabet which terminates in Wandsworth and Westminster. But it is easier to reckon the other way when we find we have only two bridges out of seventeen within the metropolitan area which are worthy to be named among the monuments of London.

I wish in these few remarks specially to insist upon the essentially monumental character of a great bridge, and I would urge upon our members of Parliament, who grant bridge-building powers to railway companies, and upon our county councillors, to excite their sluggish imaginings and rise to the level of recognising at once and for all time that a bridge across the Thames is upon the same plane of monumental and architectural importance as St. Paul's itself, and demands the same developed architectural power to design or to embellish it. As regards the railway bridges, admitting fully their necessity, there is no excuse. In laying down a railway through a city the cheapest thing is to bridge the river. In does not compare with the buying up of land and claims, coupled with land construction. Yet the public has to pay in outraged sensibility and higher rates, all because of the imperturbable callousness of our Parliamentary representatives. Even now our peers have just allowed a Bill to pass their honourable House whereby that Charing Cross monstrosity is to spread itself into Northumberland Avenue. No safeguard whatever is given to the public—not even advantage taken of the lever secured by a previous Act, which, in any widening, compelled the company to purchase the block of houses facing the Strand.

But we must admit that a railway company is not bound, in these ultra-commercial days, to hold anything sacred, save dividend; but is that an excuse for the direct representatives of our interests, who control the revenues we provide by our contributions to civic progress and order?

Why, I ask, are the County Council recognising the architectural importance of the Strand improvement and denying the architectural importance of Vauxhall, and, I suppose, Lambeth Bridge to follow? If the architecture in the Strand will cost one million, that at Vauxhall will cost at least half! Why should they assign the one to the united efforts of eight selected architects, and be content with the other as a mere piece of copybook design—in which, in the words of our premier novelist, "that rank which forms, as it were, its highest grace and ornament is mingled and confused with the viler parts of architecture"?

In no sense do I depreciate the importance of the engineer's control of all the bridge-building problems which depend upon engineering science; and if the engineer can prove himself the peer in architectural skill of those others whom I have named I am happy indeed to leave the whole work in his hands. But, as the matter now stands, and with the elaborated design before us, the action of the London County Council is wholly inexplicable and opposed to the public interest. It is far from conducive to their being trusted as the central authority in whose hands the improvement of London and her monumental architecture may be left indiscriminately or ungrudgingly.

It would be impossible not to refer in this connection to the new Pont Alexandre III. at Paris, in which the architects, sculptors and engineers have collaborated so ably together, and the pylons of which are to my eye quite delightful. The conditions laid down were such that a bridge of steel construction was inevitable, and MM. Résac and Alby had resort to a single span of cast-steel ribs, almost going back, constructively, to our Southwark model. To my own idea the architects and sculptors have been more successful in their share of the work than the engineers, because the latter have not been fully conscious of the limits of their material in appropriate decorative use. The total result, however, is such as to make us jealous of this bridge as the outcome of one of those things they manage better in France—merely because they recognise the simple logic of facts and the teaching of experience and history.

I hope for no more from these few remarks than that they will suffice to stimulate discussion upon subjects which cannot fail to secure your interest. Whether you are architects or otherwise, dwellers in cities or enjoying country life and pursuits, I need not remind you how in these days of strained effort, Vulgarity, hydra-headed, thrusts itself oppressively into the daily life of all of us, and none of the arts suffers from the unwelcome intrusion so much as architecture. And our St. Michael, our hope in wrestling with the monster, must ever be an accurate and refined scholarship, which—be we mere plodders, whose best aspiration is but for a laboured success, or gifted with the imagination and resource of genius—will guide us always down a sure path, and the spread of whose wings will bring back to us some of our ideals, beauty in our streets and bridges and all that appertains to our cities. Throughout all history the growth of civic dignity, monumentally and artistically expressed—in other words, the arts of peace—have ever been held indicative of a nation's position, power, and development in civilisation; and, if not always of rectitude in the past, let this be our added incentive and ideal in a new century of Christian effort.

AN IDEAL CITY.*

> "The common problem—yours, mine, everyone's—
> Is, not to fancy what were fair in Life
> Provided it could be; but finding first
> What may be, then find how to make it fair
> Unto our means—a very different thing.
> No abstract, intellectual plan of Life,
> Quite irrespective of Life's plainest law.
> But one a man, who is man and nothing more,
> May lead: Idealise away:
> You're welcome; nay, you're wise." Browning.

A FAIR city, is this building castles in the air? No; but from high thoughts and our imaginations we build foundations for its possibilities—foundations have been laid for all time to build upon, materials and all things necessary are to man's hands, then why idealise, but realise the actual.

It is natural for some men to build, some to carve, some to paint, some to sing, to write and speak in words. We are thinking of our builders of cities; to build, then, is to some natural; it is the sport and pastime of many childhood's hours. How many days he satisfies himself in building with his toys? his castles made with cards, always striving to go one better than the Tower of Babel, higher and higher; then the outburst of joy produced by the downfall, the noise of its destruction; this natural part in the boy, we see in the man, and find in nations; joy of some to build, the greatest satisfaction of some to pull down, to make a noise.

In nations like in man we find the natural, the ideal, and then the material, and from these periods we have the height to which its civilisation has reached and the depths to which it has fallen, monuments for all future ages, of a nation's infancy, maturity, decay.

The early settler by the riverside or near the wood first builds his hut; he names it after its natural surroundings, "the hut by the river" or "by the wood"; he works, and by his toil produces the fruits of the earth, it becomes his garden of riches; then the thinker, who looks up, "man the uplooking animal," he sees the sun, the moon, the stars, the seasons, from his thoughts he is led to idealise, to worship, and takes the natural to symbolise his highest aspirations, object for his worship, and strikes out to more perfect manhood to build a home wherein may dwell his God; he builds his temples, his palaces, his monuments, which clothe his thoughts and express all his highest ideals, and from these grow the maturity of a race. With this evolution of the mind of man comes also the evolution of his morals, which he calls virtues, the causes of joy and happiness, the causes of evil and misery.

We can trace the history of nations, the causes of their prosperity and the causes of their decay. And it is natural for man from things seen to think and use his mind, and let the light of his soul dwell on the beautiful that it may live; the natural magnified to its ultimate to illustrate his ideas of the supernatural; the Egyptian his sun-god, light and life; the Greek with his pure heaven and his goddess Wisdom; the Florentine the Mother and Child, the ideal Maternity and his love of labour—for was not his symbol of harmony of life the sound of the smith beating into instruments of music the crude metal of the earth? Take these five subjects, light, life, wisdom, maternity, labour, and round them you can build all the highest thoughts of man and the religions of nations, and which have been the subjects and themes for the monuments of all the great cities of the world. Take each subject to its ultimate, and you have the perfect actual—subjects fitted for the sculptor's art and worthy to be placed in your ideal city.

But with power comes decay—the worship of the man, much self-glorification. The material man, not man's mind or soul, do we measure him by; but his material external is here portrayed, which produces destruction to the great ideal. We then produce the bulb, no longer the flower that has made this city fair.

So we workers in clay, wood, stone and metals are but the children of your city. We are, at the hand of the builder, to write in streets the great thoughts of your philosophers, the dreams of your poets, the great victories of your warriors, the ever-spreading influence of civilisation, its truth, its justice and its liberties, that in figure these ideals may live in the crowded streets of your city. But to hand down the mere posthumous portrait of the man is to give to the world the shell without the kernel—not the ideal in which the sculptor's soul may live and breathe, but the dead, mechanical production of a dead thing.

Have we sculptors any ideal for our technical side? Does he reach out to any ultimate in his means of expression? We see he has his ideal subject; has he ideal rules for his practical work? He knows that life is governed by simple natural laws; so just as simply must this child of nature express himself, and must govern every detail of his perfect work. It depends on the man, his mental vision. You may show him examples of the highest realisation of men's mind and hands, but he cannot reach them if his power of thought is not strong enough to produce the same conception Take the pupil and the worker beside you; you can so transmit your thoughts and the way in which you see things that he can see just what you point out, but immediately he is left alone he falls back to his own range of vision.

What are, then, these simple laws that can express the ultimate of the sculptor's expression? They are the combination in a work of three characteristics of the arts—architecture, sculpture and painting. The dignity and monumentality of the architect, the simplicity of severity of line and form of the sculptor, the atmosphere of light and shade of the painter—all these we find in the great works realised by man in his maturity, and prove what is always said by great artists, "that there is but one art, but different means of expression."

For subjects you take great abstract truths; for treatment you take the natural object and clothe it with its attributes to personify the unity of atoms into a grand whole And by the eyes we see and the power we feel will be the result and nearness attained to our great ideal.

"The situation that has not its duty, its ideal, was never yet occupied by man. Yes, here in this miserable, despicable actual wherein thou even now standest, here or nowhere is thy ideal: Work it out therefrom. The ideal is in thyself; the impediment, too, is in thyself."

The New Church of St. Andrew, Bromley, E., was opened on Friday last. The architect was Mr. W. D. Caröe. The building cost 7,500*l*.

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* A paper by Mr. Stirling Lee, read at the Congress of the Royal Institute of British Architects on Wednesday evening, June 20.

THE IDEAL CITY.*

THE object of my paper to-night is to try and precipitate, by means of discussion and suggestion, some conclusions as to what an ideal city should be, and also some agreement as to what a city should not contain that set up any claims to be beautiful. What is it we want? We go up and down this city of London, for instance, open-eyed and open-mouthed, eager to observe and loud in our expressions of disapproval; but what do we want? What are our ideals? Abstract disapproval is so easy, and often so unhelpful—almost any one of us can condemn, but when bidden to specify alterations, difficulties—the difficulties in fact—at once begin to appear. Are we agreed as to what we want? And by we I do not only mean architects, I mean amateurs of architecture, cultivated people, men of taste, those who have given thought to the matter, made their observations on other towns and digested them, county councillors, all those who have the care and the guardianship of this our city. What is it you want, and are you agreed upon it? What are your ideals? We architects want to know. They are your ideals that are being carried out. Architecture, so far as it is living art, is the realisation of the aims and needs of those that produce it, and the vernacular architecture of any given period is the index of the general feeling and temper of that age. The few sporadic attempts to do scholarly, antiquarian, or reactionary work have little influence on contemporary work, except where it happens to find itself in sympathy with those views; the great mass of building and construction generally is the true exponent of the popular view of architecture. Are you content? and, if so, why do you grumble? We talk of a city being beautiful, but we smile at the idea of making London so. Why? Even if, in these humble-minded days, that were too much to propose, could we not, if we wished, prevent its growing uglier? As it is, London gets more and more hideous every day. We never see an old house threatened with demolition but what we have to fear a loss in its successor; we never see a concerted design in architecture, such as some of our squares, a few streets like Stratford Place and others, but we know their harmony is soon to be disturbed, and that quality of unity got by gracious co-operation will be burst in upon and flung into the gutter. We have buildings we call masterpieces; can we not at least preserve them unharmed? We allow the appearance of Somerset House to be defaced by mean additions. We talk of alterations to Waterloo Bridge; Hawksmoor's Church is undermined by a railway station; the moment a monument comes in the way of what is called the "convenience of the public," it is doomed and disappears.

Is it true, is it probable that we cannot have what we want? What is it stands in the way? It isn't money. We can afford to have our way. We hear ourselves described as an indomitable people, and we accept the epithet with complacency; it is not from want of saying that we know we are rich. We may not be an artistic people, but we are good organisers and governors, and such a standard of magnificence as Rome achieved might be ours, did we desire it. The trouble is that we are not agreed as to what we want, and we are not sure that we ought to want it. Directly we are all agreed upon some public matter an architecture springs up in response, and according to the quality of the sentiment so is its interest. The national conscience has for long been deeply stirred by the sight of helpless suffering, and the hospitals we have built to alleviate that and to increase our knowledge as to its prevention form one of the contributions of fine living architecture to the nineteenth century. So too are the great asylums. The care and thought, the quintessence of medical observation and research, have been gathered up and sublimed into formulated necessities, which have dominated the buildings erected in compliance, and by their insistence have given strength, and history, and interest to these structures.

Other contributions to the architecture of our time are our board schools, museums, public libraries and technical institutes, based also on a popular desire to improve the conditions of our life. Abate something of the virtue of the impulse, and the standard of interest in style of architecture falls immediately. The theatres, restaurants and gin palaces all rise in response to the popular call, and the nobleness of the demand dictates, in proportion, the nobility of the architecture. But in these instances there is, broadly speaking, a general agreement and codification of our desires; it is not so as regards the general treatment of our city. What is the view one is to take of London? That it is a vast workaday centre, from which all who are fortunate enough flee, after the day's work is done, to a bed in the country. If so, let us at once set about accentuating the position and importance of the railway stations, let us widen and straighten the routes between them, let us concentrate within a ring, if possible, the industrial nucleus, and separate the residential from it with an insulating zone of open space. We shall not make the city beautiful, it is true, but we might possibly its suburbs.

The day has gone by when the city was walled round for shelter and defence, and the great gates of old time have been replaced now by those huge vomitories—the railway termini. But the gates of the walled city were prominent features both from within and without; their purpose was unmistakable and resulted in characteristic form. Cannot we do as much for our railway stations? Merely to clear away a wide space in front of them and to make the route spacious and direct would do much to give them distinction. Although I myself repudiate the idea of treating London as a mere workshop, still it is at least a definite treatment, a definite conception, and definition is what is at present so forcibly lacking in the handling of our city. The anxious, fevered scuttle from station to office, and from office back again to catch the train, is not a particularly fine idea, and is not likely to bring about particularly fine results; but poor as they would be, they would be preferable to the present welter and the sense of compromise got from adjusting small individual claims. Or shall we take the view of London that it is a place to be proud of, and that we mean to be proud of it and keep it as a source of pride? There are many things that would justify us in this attitude—the river and some of the bridges that span it, and the Embankment that confines it; the Abbey, the Cathedral, the many churches and public buildings, some few of our squares and streets—possibly our parks.

And what should we do? Well, I am talking of the ideal city, and I permit myself some flights of fancy that may be condemned as not altogether practical, though I try to keep on the hither side of Utopia, and so I answer, "Keep them." Keep our public buildings, keep our bridges, our squares and our streets (those that we are agreed upon as embellishments of our city), keep them as they stand, at least for the present. As they are the subjects of our pride let us treat them so; let the access to them be obvious and direct. Take the river for example. Let it be embanked on both sides, and let us have occasional glimpses of it from the Strand, wider and less squalid than the few grudging peeps which we can with difficulty now get. We are incessantly increasing the span of its bridges to facilitate the water traffic; let us have a traffic that may be pleasant to the eye and handy to the passenger.

A swift service of small steamboats, trim and tidy, would help to relieve the congestion of our streets, and in many weathers and to many people would be a welcome alternative to the pavement. I said ' trim and tidy" because on the grounds, seemingly, that we are rich and industrious we can't afford to be clean and decent, and haven't the time to be bothered with the necessary trouble; so London is disgusting and smelly owing to our slovenliness. The pride in a neat and perfect turn-out still clings to the stable, the harness-room, and the coach-house, and, by an association of ideas, somewhat affects the railway train; but the pavement is a fixed, interminable spittoon, and the tops of omnibuses a travelling one. In my ideal city, my impracticable Utopia, I would have a higher standard of cleanliness and scavenging. I would have more pageantry, more processions, and I would make many of them go by water. The Lord Mayor and his state barges should a familiar sight on the Thames. And I should like more music, especially on the water. The organ-grinder, the solo instrumentalist, "the German band," and all such small enterprise I would banish utterly from the streets, as well as yelling ruffians, street cries, and newspaper pitches; but in compensation I would increase the quantity of music already provided by the County Council, and I would provide a supply of kiosks in the streets where people could buy their papers in peace. We are surely all agreed that noise and disorder are ugly features in a city as well as in a house; and yet we permit great shouting letters, winking and glaring lights, every form of eye-torture that may sear itself indelibly on the brain—for the object of many of these advertisements is that you may never forget them again for the rest of your life. In the "ideal city" there would be a control over these street distractions, so as to secure some uniformity of effect. Nor should the streets preserve their haphazard character, so far as their general growth and expansion may give us chance for correction. The great streams of traffic should cross each other at right angles. The railway stations, the great creators of the swift-going traffic, should be recognised and their influence accepted, and the shortest direct routes to them taken in hand and developed to meet the case.

But life is not all a hurrying from one anthill to another; there is such a thing as leisure and the enjoyment of it, there is such a thing as work which may be done deliberately and in quiet. Let us preserve, then, the back-waters and retreats, where we can find them in London, and insure that they shall not be arbitrarily invaded. They should be the shelters of our monuments. Each year we erect fresh statues in memory of famous men, but we have nowhere to put them, and they stand in the howling chaos of our streets, pitiable and helpless horribly misplaced—or else they are thrust out of sight in narrow streets or chance corners. What a terrible misprision of their qualities this argues! It is part of the same temper that treats a piece of sculpture, an obelisk or a fountain quite without reference to the site it has to occupy or its proper function, which is to add to and accentuate the general architectonic character of the locality it is to adorn. Architecture and decorative and monumental sculpture are not, as it seems to be thought, matters merely of detail and immaterial how they may be combined, having no necessary connection—architecture in our cities should be the expression of our ideas, the ideas of a community, our corporate, not our individual desires. The aspect of our streets concerns us all, and such individuality as there may be in it is pleasant to us, so far as it reflects the history of the locality and such human characteristics as are obviously gracious and kindly.

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* A paper by Mr. Halsey Ricardo, read at the Congress of the Royal Institute of British Architects on Wednesday evening, June 20.

Lastly, there is the question of colour in our ideal city—colour, natural and artificial—both of great consequence as regards beauty and both requiring broad concerted treatment. Natural colour resolves itself into grass, trees, shrubs and flowers.

I will leave the parks as outside the province of my paper and consider the use of grass and foliage as it concerns our streets and open spaces. That much can be done by a mere strip of grass is shown by the breadth in front of the National Gallery. But why should we pause there? Why not compress to half their area the fountain basins in Trafalgar Square and turf the square—introducing, during the summer months, a few formal-shaped trees in tubs or boxes, to give contrast and variety to the green? Then the trees in our streets. At present they are planted at the sides of our streets, in the pavements, and the contours of the trees chosen are incompatible with the position assigned. They cannot grow properly without interfering with the light and air of the adjacent houses. Trees, such as planes, with spreading foliage, should be planted in the centre of the streets, where they can flourish unmutilated and be of service in dividing the traffic. Where practicable, our streets should open to disclose a vista of green or a peep into the verdure of our squares or a glance on to the parterres of our Embankment. Of artificial colour little has been tried, and that little, done in experimental, isolated ways, is worse than useless. Colour must be treated broadly and in mass; in small quantities it is mainly irritating by its spottiness and the want of co-operation from the rest of its surroundings. Colour, quite as much as any other quality of architecture, must be used to express not merely individual whim and fancy, but must symbolise some general purpose and aspiration. Consequently, if we are to have colour in our streets, we must treat it heraldically. This has been recognised in some measure already, where colour has been employed by bodies of men—such as the State, vestries, parish councils, railway and other companies. Here in London each parish colours its lamp-posts the parish colours—the dust and water carts carry the proper parochial bearings and legends; throughout Great Britain scarlet is the official tincture of the Post Office, black and white the traditional heraldry of the Coastguard stations. Our railway trains and our omnibuses tell by their colour the companies to which they belong and the routes they take. We have London already divided up into various divisions—electoral, parochial and the like. Let us take advantage of these and display those divisions outwardly to the eye. Already the parish lamp-posts, and other obstacles, are distinguished from each other by pattern and colour; we might go farther and define the boundaries of the parish by the colour of the area railings, and some form of superposed tint or quartering in part might define the electoral divisions. Moreover, the vestry hall and parish library would gather up in concentrated form the accepted heraldry of their office and locality, making them landmarks in the neighbourhod by the splendid richness of their colour, containing in their accumulation the separate badges and symbols elsewhere distributed through the locality, and explaining in the sum of their achievements the various voices whose utterances form the chorus of civic life.

Many are the "ideal cities" that might be shadowed forth —but our first concern is to settle what is to be our attitude towards the city as at present. Are we here on sufferance only, or do we mean to reside in it and consequently make it worth residing in? This point settled, the conditions of our residence will help to formulate our ideal, and by organised co-operation we can work towards this end, and once clear in our minds what we want, we can push confidently towards the fulfilment.

The estimates for the proposed orphanage to be erected at Bontnewydd, Carnarvon, have been considered by the committee and the tender of Mr. Richard Jones, Llanwnda, accepted. The architect is Mr. T. Taliesin Rees, Birkenhead, whose plans were placed first by the assessor in an open competition.

THE IDEAL CITY.*

It is difficult to settle the point of attainment to be aimed for in the ideal city.

There are certain conditions under which a segregation of people can live. A city cannot exist embracing only palaces and promenades without workers entailing production and distribution, the gathering and accumulation of wealth and ways of communication.

In the generality of cases a city has grown from traders living together for convenience of traffic and for defence, and the nature of the traffic has been influenced by the natural features of the locality and has grown by the fact of the place being suitable for shipping, for manufacturing and for a trade centre.

Few cities, and none have reached importance, have been built for residential purposes with trade as a supplemental consideration.

One might more readily look for the ideal there, but the result has not been satisfactory.

Washington is perhaps such an instance, but the feeling of monotony, in spite of the grandeur of some of the buildings, is very trying. It seems, then, that in a city one must look for an accumulation of inhabitants of different degrees, requiring special adaptation to their mode of life, and consequently a conglomeration.

I think we can only lay down some broad rules for adoption.

A city might be advantageously placed on a plateau, about 300 feet above sea level, slightly sloping to the south-east, with a large wood four miles from its centre on the north-east side, on a light clay, passing lower into rock.

It might have at twenty miles distance northward high hills, preserved and forming a water source developing into a river, which would fall, producing power to its junction with a navigable river five miles from centre of town. This centre of town might be a park a mile in diameter, intersected by main roads, and planted. It could be surrounded by Government buildings, churches, galleries, theatres, colleges, and behind these an inner elevated circular railway communicating with lines running north, south-east and west, and with another circular railway two miles beyond.

Broad roads should radiate from the centre, intersecting public squares or gardens, and planted; and I would not recommend planting trees as avenues by sides of roads, as their uneven growth would cause waste of valuable land, and prove eventually unhealthy and incommodious, unless planted in widened unflagged spaces with roads on each side.

There should be universal electric power supplied, and no smoke. All the supply of power and water and drainage under one control should be in subterraneous passages, and in the busy parts special sunk roads for heavy traffic, with overbridges, might be introduced. Warehouses and docks, with the larger manufactories, would be next the embanked river, and high enclosing walls, especially next dwelling-houses, disallowed. The tendency to build dwelling-houses to the westward has been universal, but with the absence of smoke this need not longer prevail, and the rich and poor quarters might be intermingled, though there will never be the equality which we may expect only in the realisation of the description of the perfect city pictured in the vision of St. John.

In an attempt to remodel an existing city I am of opinion that individual building must be left to those desiring to build and occupy their houses, for as taste and knowledge increase so a better result will ensue; that manufacturers' premises must depend on the requirements of trade, but that a central authority should have control over power, water and drainage, and have the right, which should be freely used, to dispossess and compensate for main lines of communication, and the setting aside of planting areas under a definite scheme.

A discussion followed in which Messrs. Owen Fleming, Arthur Cates, E. S. Prior, and Charles Hadfield took part.

SOCIETY OF ARTS.

The Council of the Society of Arts have awarded the Society's silver medal to the following readers of papers during the session 1899-1900:—To Mr. D. E. Hutchins, Conservator of Forests, Cape Town, for his paper on "National Forestry"; Sir W. Martin Conway, "Some of the Undeveloped Resources of Bolivia"; Mr. Edmund Wilson, "The Housing of the Poor"; Professor R. W. Wood, "The Diffraction Process of Colour Photography"; Mr. Edwin Bale, R.I., "Artistic Copyright"; Miss Halsey, "Some Unfamiliar Masterpieces of the Italian School"; Professor W. M. Flinders Petrie, D.C.L., "A National Repository of Science and Art"; Mr. A. R. Colquhoun, "Russia, Persia and Afghanistan";

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* A paper read by Mr. H. E. Milner at the Congress of the Royal Institute of British Architects on Wednesday evening, June 20.

Sir William Lee-Warner, "Our Work in India in the Nineteenth Century"; Mr. Christopher Rawson, "The Cultivation, Manufacture and Use of Indigo—Position of the Industry in India"; Mr. John Ferguson, "Old and New Colombo"; Sir Charles Dilke, M.P., "The Century in Our Colonies"; Mr. Cyril Davenport, "Niello Work"; Mr. Lasenby Liberty, "English Furniture."

THE SILCHESTER EXCAVATIONS.

ACCORDING to the tenth report of the Silchester Excavation Fund the operations of 1899 covered insula XXI, east of insula I. (opened out in 1890-91) and another (XXII.) to the north of the former and extending nearly as far as the town wall, the total area of exploration being about 5½ acres. The work has been directed by Mr. W. H. St. John Hope and Mr. George E. Fox, who have been assisted by Mr. H. Jones, Mr. F. Davis and Mr. M. Stephenson, and is being carried on under the auspices of the Society of Antiquaries.

The results of the year's work lie not only in the actual area explored but, as in former years, in a good many objects of considerable archæological importance and interest. As to the former, the two insulæ have disclosed houses and other buildings, the lie and construction of which enable the formation of several probable hypotheses. Insula XXI. appears to have been enclosed by walls on all four sides. Two houses occupy the northern corners, and on the east is a large house of the courtyard type, with another small house to the south of it. At the south-east angle was situated an oblong chamber with an apsidal end, which may have been the meeting-room of some trade guild. Other traces of building were found along the south side, but, unfortunately, the south-west angle underlies the modern roadway, and could only partly be examined. Two small square structures were found on the western side. The house at the north-west corner was discovered in 1864 by the Rev. J. G. Joyce, and in it additional chambers have now been found on the south and east. The north-east house is one of the corridor type, which has become a courtyard house by later additions, and in one of the added rooms was a hypocaust of a peculiar plan. The large house on the east side displays a succession of changes, and traces of mosaic pavements of a simple character. The small house to the south is remarkable for the number of pits and wells found beneath it from which several whole vases were extracted, some of an early type and excellent design. Insula XXII. contained a good deal of open ground in the centre and north-west, and there being no sign of a street on the east it is conjectured that the excavated portions may form part of a larger insula. Near the south-west angle was a good-sized house of the corridor type with a large chamber ending with an apse and a hypocaust below. The house had apparently been reconstructed; a square chamber added on one side had foundations of huge blocks of ironstone—a material which had also been used in the reconstruction of the western part of the house. Three other houses were found, in one of which was a square block subdivided into two chambers of unequal size with an apse attached to one side. All these had been warmed by hypocausts.

As the area within the walls has, year after year, been explored some general conclusions may be arrived at as to the gradual growth of the city, its date and the character of its population. The plan of the city is in squares, but many of the houses are not at right angles with the lines of communication. In some cases an adjustment has been made in the porticoes and other additions to the houses, these being made square as far as possible and added to the earlier oblique-angled structure. Thus it becomes clear that there were houses before there was a planned city or embracing walls. Then there is a close resemblance between the mosaic of the beautiful floor exhibited last year and those in Pompeii, which throws back the date to about 80 A.D., at the latest. Much of the pottery discloses Celtic workmanship on what are termed pseudo-Samian vases. These artisans were capable, it would seem, of copying a pattern and even the outlines of animals with very tolerable fidelity; but their attempts at the human figure were not equally successful. It would seem, too, that the inhabitants had need of a Merchandise Marks Act, for some of these imitations have the name of one Vitius, which is presumed to be a forgery. There are some five vessels, also of purely local patterns, and several pieces of purely Celtic work with Celtic emblems—possibly Christian. One drinking vessel of castor ware is inscribed with the words, "Vitam tibi." One interesting object was discovered by a curious accident. It was a large piece of stone completely overgrown with moss. It had long been used as a cheese farm weight. Its real character, however, was disclosed when it was used to bang open a door—an operation which rubbed off the moss and displayed the blurred features of a man. This is one of the few specimens extant of the period of Roman occupation of figure sculpture, and is conjectured to be a head of Jupiter or Serapis. Of architectural remains there were only found last year a piece of coping, part of a fluted Purbeck marble pilaster, and a fragment of a white marble slab. There were also finds of bronze, iron, glass and bone, and a skull of a red deer—one of the largest ever found. Special notice should be made of some fragments from metal refineries. These were great pieces of the hearths used for the extraction of silver from copper. These hearths—the term in this connection meaning the residue from the ore—have been analysed by Mr. Gowland, and their constituents have been found to show results almost identical with the hearths used for a like purpose by the Japanese.

In the magnitude of finds it may be that former years have surpassed last season; but each series of additions is cumulative in effect, and when all is done that can be done the total results will be of almost unprecedented extent and value, and must add greatly to the conceptions to be formed of the Roman occupation.

THE HERA OF POLYCLEITUS.

AT a special general meeting of the Hellenic Society held last week, Professor Charles Waldstein read a paper on "The Hera of Polycleitus." It came from the hand of the greatest artist of the day, for Pheidias was dead, and was comparable with the ivory Zeus and the Athene of Pheidias. This statue was placed in the Heræum of Argos, which was built after fire had destroyed the older temple in 423 B.C. Overbeck had discussed the question whether Polycleitus had created a type of Hera as persistent as that of the Pheidian Zeus. But there was no doubt, as the work of the American Institute at Argos had clearly shown, that the influence of Polycleitus had been enduring. Pausanias had described the temple and the statue in Book II., c. 17. It was of gold and ivory, probably seven metres, or 22 feet high. By its side was a Hebe of later date. It was to be observed that the national evolution of Greek art was to rejuvenate its divinities, or to differentiate into a more youthful form some of the attributes of the original deity. Thus Hebe was a development in younger shape of Hera — Persephone of Demeter. Then, again, in the later ages Apollo and Dionysus, Artemis and Aphrodite became younger under the sculptor's chisel. To return to the Hera—he had been led to the conclusion, after four years' labour for the American Institute at Argos, that the bust in the British Museum which had been thought to be an Apollo or Dionysus was Polycleitan in character and represented Hera. It was no easy matter—and the most skilled might err—to distinguish the sex merely from the head. Overbeck thought it was impossible to identify the type with any extant work, though the Ludovisi and Farnese heads in Rome were at one time held to represent the Polycleitan ideal. In a great number of pictures on the screen the professor traced the characteristic lines of Polycleitus's work in the British Museum head by comparison with other work of the artist, and contrast with the methods of Pheidias. In a further short paper on the Argive Heræum, Professor Waldstein insisted on the unique importance of the Heræum, the influence of which extended over the whole of Greek history. Tiryns was superseded by Mycenæ and both vanished, and Hissarlik was outside European Hellas. Thus in enduring interest the Heræum surpassed them all.

PAINTABLE ENGLAND.

ON Monday Mr. Hubert von Herkomer, R.A., delivered a lecture at Oxford on "England Lovable and Paintable." He said that in spite of the undoubted higher level of excellence in the present day—or the "uncanny dexterity," so to speak, of much modern work—there had been a loss of a sentiment that they could not safely dispense with. It could not be said with justice that much of England's charm gladdened their hearts in a modern exhibition. Yet the lovableness of England was most assuredly a phenomenon that was representable in art and was not merely one that was pyschological. Many changes had taken place in the aspect of English art during the Victorian era, and the most striking was the change of front in the type and work and selection of subject from one essentially English, evolved by English painters of England, to one of foreign tendencies which constituted his note of lament. He should mention as a sort of palliative to his lament that the lovely art of water-colour painting had certainly been developed and brought to its highest capabilities during the Victorian era. But against this stood the altogether deplorable fact that the destruction of the art of wood engraving through mechanical processes had followed its own development. Although he might safely say that this Victorian era could show extraordinary activity in art, he could not help looking forward with a little apprehension to the danger of England's losing those characteristics in her art that had always made her stand strikingly in foreign exhibitions. He pleaded for the lovable aspect of England's beauty. He urged them to cherish its cottage homes, its farmsteads, its village greens and its shady lanes. Be it remembered that they were to paint and write for the future centuries to dream over and wonder. Thus let the English painter's mind see with English eyes, and let him proclaim the great truth that England was one of the most lovable and paintable countries in the world.

LANCASHIRE AND CHESHIRE ANTIQUARIAN SOCIETY.

THE members of this Society, to the number of about fifty, visited Bleasdale on Saturday to inspect the excavations made on Fairsnape Farm by Mr. S. Jackson, of Garstang. The party included Professor Boyd Dawkins (president of the Society), Miss Boyd Dawkins, Mr. C. W. Sutton, Mr. Albert Nicholson, Mr. J. J. Phelps, Mr. W. Bowden, Mr. J. B. Robinson, Mr. W. J. Redford, Mr. Hughes (town clerk of Lancaster), Mr. J. Goodyear, Mr. J. Burgess, Mr. C. Roeder, Mr. F. Moorhouse, Mr. M. Stirrup, and Mr. H. Hopkinson. Bleasdale is some five or six miles from Garstang railway station, and that part of the journey was done in brakes and traps. The country, which is sparsely inhabited, abounds in moorland, and, as becomes the site of the ancient Bleasdale Forest, is well wooded. The occasional appearance on the road of companies of soldiers furnished reminders of the neighbourhood of Chipping Camp. On alighting from the conveyances at Brook's Farm the party paused to admire the picturesque Pack Horse Bridge, which apparently remains as sound and serviceable as in the remote times when the only means of carrying the merchandise of the country was the pack-horse, and photographs of it were made at the request of the president. Mr. Jackson guided the visitors past the ancient church and the vicarage, and halted them on the site of his excavations, quite close to the homestead of Fairsnape Farm. Persons who have not had the advantage of a personal inspection of the pre-historic remains disclosed by the excavations will obtain but an inadequate conception of their interest and importance from a description. Mr. Jackson's own description is concise, and subsequent visitors to Bleasdale will find it of some assistance.

In the summer of 1898 Mr. Jackson's attention (as he informed the Antiquarian Society on Saturday afternoon) was directed to a circle in the grass on Fairsnape Farm—which, it should be added, is devoted to pasturage and has not been ploughed for many years. The tenant of the farm, Mr. Thomas Kelsall, who takes as much interest in the find as Mr Jackson himself, entered into the subsequent investigations with much heartiness. Digging within the circle, Mr. Jackson and Mr. Kelsall at a depth of about 4 feet came upon tree logs laid in front of each other horizontally and apparently right round the circle except for an interval on the eastern side. Last year digging was resumed, and at the centre of the circle, about 22 inches beneath the surface, two cinerary urns were disclosed. One was 8 inches high, and the other 8½ inches. Inverted into the mouth of the larger there was a third urn, small and round. The three were filled with charcoal and fragments of bone, and are regularly though simply embellished. They were very soft when found. This year it was determined to investigate the whole of the circle, which is 75 feet in diameter. A buried circle was found, consisting of eleven tree logs placed upright between the urns and the inside of the log platform. The tree logs were about 18 inches below the top soil, were about 18 inches in diameter, and were charred on the top. A layer of clay had been placed over the original vegetable soil beneath, and was thicker at the centre than at the edges. Canon Greenwell, of Durham, in the course of a letter to Mr. Jackson, strongly advised that the whole of the platform circle should be examined. Further investigation convinced Mr. Jackson that the gap on the eastern side of the circle had been an entrance. Indications of a much larger circle were traced, and ultimately at a depth of about 18 inches large tree stumps were found standing upright and about 13 feet apart, the intervals being filled with lesser stumps, except at the south-west side, where they were omitted. The circle itself is 150 feet in diameter and encloses the smaller one. The bases of the wooden pillars show the marks of some convex instrument with which they had been cut down. The following is an extract from a letter of Canon Greenwell on the subject:—"The structure is certainly a most peculiar and interesting one, and must be put on permanent record, with plans and figures of the urns found. It looks as if there was an entrance on the east side leading into the inner circle, as well as one on the south-west. I should think it possible the charred wood had connection with burning the bodies. The finding of the interment close to one side of a circle is not singular. In a stone circle near Keswick the burial cist was close to one side of it. It is surely a most novel and remarkable structure, and I only wish I were feeling equal to a journey to see it. There are two things to be done in the first instance—examination of the whole area and the making of complete plans; then comes the putting it on record. I see you found the original surface moved under the clay band (placed there by man's hands). I think there may be other burials there."

The tree stumps referred to by Mr. Jackson are oak and are remarkably well preserved, the clay soil of the district having been a constant protection. The urns are at Fairsnape farmhouse in the care of Mr. Kelsall, who extended every courtesy to the visitors on Saturday afternoon. Professor Boyd Dawkins said he had had some experience in digging out stockade dwellings, and that outer circle resembled the older stockades which were used for the protection of a settlement. But he had never come upon such large timbers as were there in any of the stockades he had seen. The inner circle was an extraordinary puzzle. He had never known of anything like the trench laid with horizontal timbers in a clay bed. The inner circle, surrounded by the trench, was probably an old burial place, and the outer circle had probably been the outer boundary of the habitation of the dead. It was modelled to a large extent on the stockades used for the protection of the living, for in the Bronze Age it was the most natural thing to so protect the dead also. The urns found were typical throughout this country and throughout Europe of the Bronze Age, when the dead were almost invariably burnt. They belonged to a people who arrived in this country at a clearly defined archæological age—the Gaels, the ancient Celts, the ancestors of the old Celtic population of Ireland and the ancestors of the old Manx population of the Isle of Man. That earlier section of the Celtic group of mankind introduced higher arts and higher civilisation into Britain from the Continent, and they found their way into this country at the beginning of the Bronze Age with bronze axes, bronze daggers and bronze spears. That discovery was one of very great archæological importance, and all the archæologists of the country were under a debt of gratitude to Mr. Jackson, Mr. Sharp, of Linden Hall (the owner of the land), and Mr. Kelsall, the tenant.

After a hurried inspection of the circles and the urns the members of the Society drove back to Garstang for their trains. At Garstang they were entertained to tea by Mr. Jackson.

GENERAL.

Roman Pottery has been discovered at Worthing, in the excavations necessary for the setting back of the pavement of a road, together with a large portion of a hypocaust.

The Late Mr. W. R. Sutton, the London carrier, has left his residuary estate for the building of houses for poor tenants, which are to be known as "The Sutton Model Dwellings."

The Brighton Fruit and Vegetable Market is about to be enlarged at a cost of 10,650*l.* by Messrs. Rowland, of Horsham.

The School of Art Wood-Carving at South Kensington has received from the Clothworkers' Company a grant of 50*l.*, and this grant, in addition to a similar one from the Drapers' Company, has enabled the school to continue its work for another year in rooms rented from the Imperial Institute. But for this timely assistance it would have been necessary to close the school.

Romney's Portrait of Miss Peirse, afterwards Mrs. Thomas, was sold on Saturday for 7,000 guineas, the highest price paid for a single figure by the painter.

Mr. Thomas B. Holliday has been appointed tramway engineer to the Corporation of Brighton during the construction of the tramways specified in the Bill now before Parliament. The salary is 600*l* per annum.

A Painting, by Murillo, *The Good Shepherd*, has been sold at an auction in Paris for 29,500 francs.

Two new branch libraries are to be erected in Leeds, one at the junction of Marshall Street and Nineveh Road, Holbeck, and another in Hough Lane, Bramley. For the former competitive designs are to be invited from local architects.

Lady Burdett-Coutts has ordered the erection of a marble memorial cross in Wynberg churchyard, bearing the names of all the soldiers who died in the hospital and are buried there.

The Dundee Institute of Architecture offer prizes for a freehand sketch-book of architectural subjects from existing buildings, not less than six pages, in pencil only, not copied from any drawing. Measured drawings of any architectural subject in black and white. A water-colour study of an existing building. Design for a series of three carved wood panels in decorative frames, illustrating scenes from history or poetry. Design for a bank, with manager's house above, on corner site. Design for artist's house, containing sitting-room, hall, living-room, three bedrooms, &c., with commodious studio. Design for commodious porch for village church, with seats; any style. Design for the entrance doorway of a large house; any style. Album containing not less than twelve large-scale photographs of architectural details from existing buildings.

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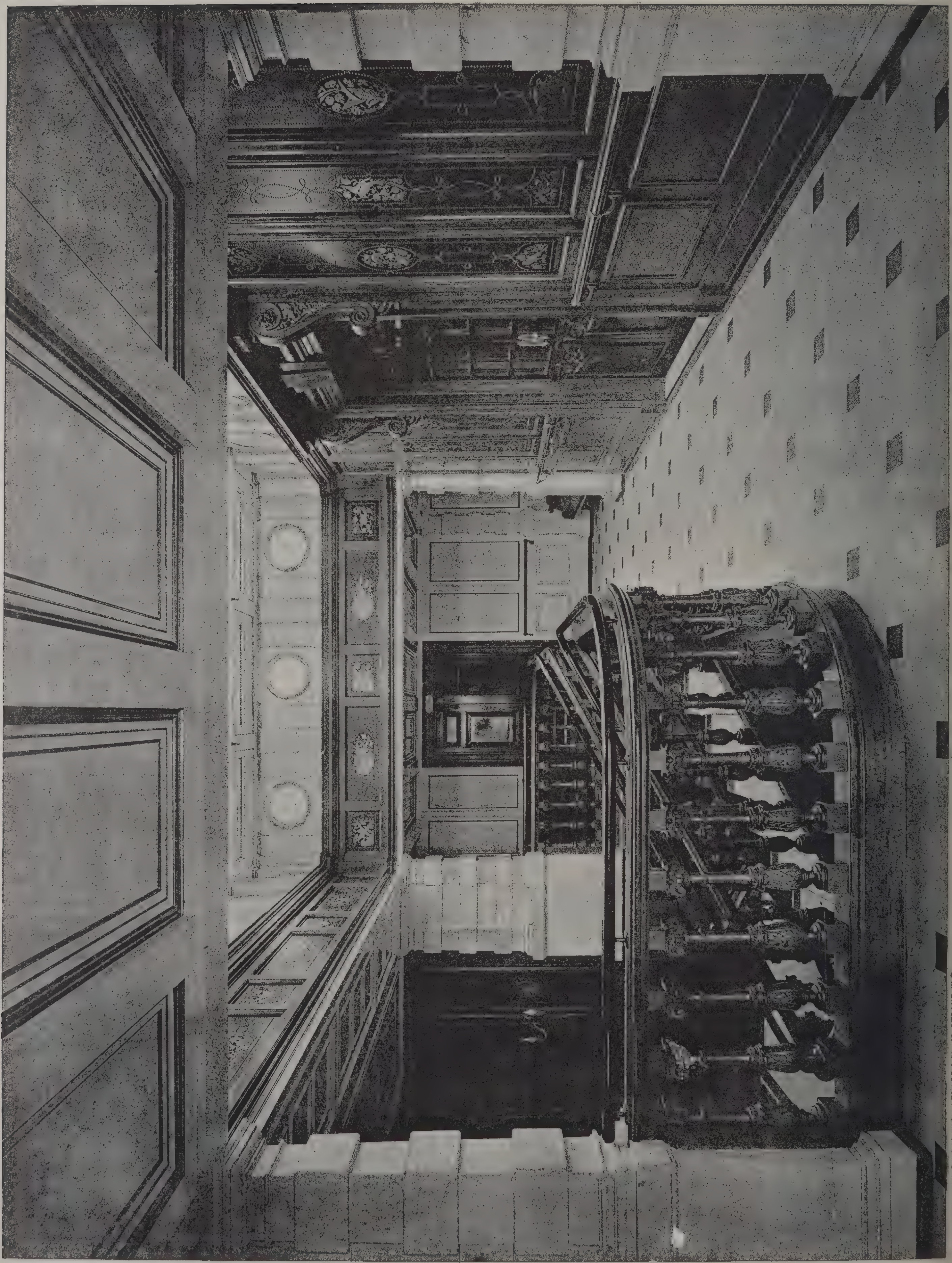

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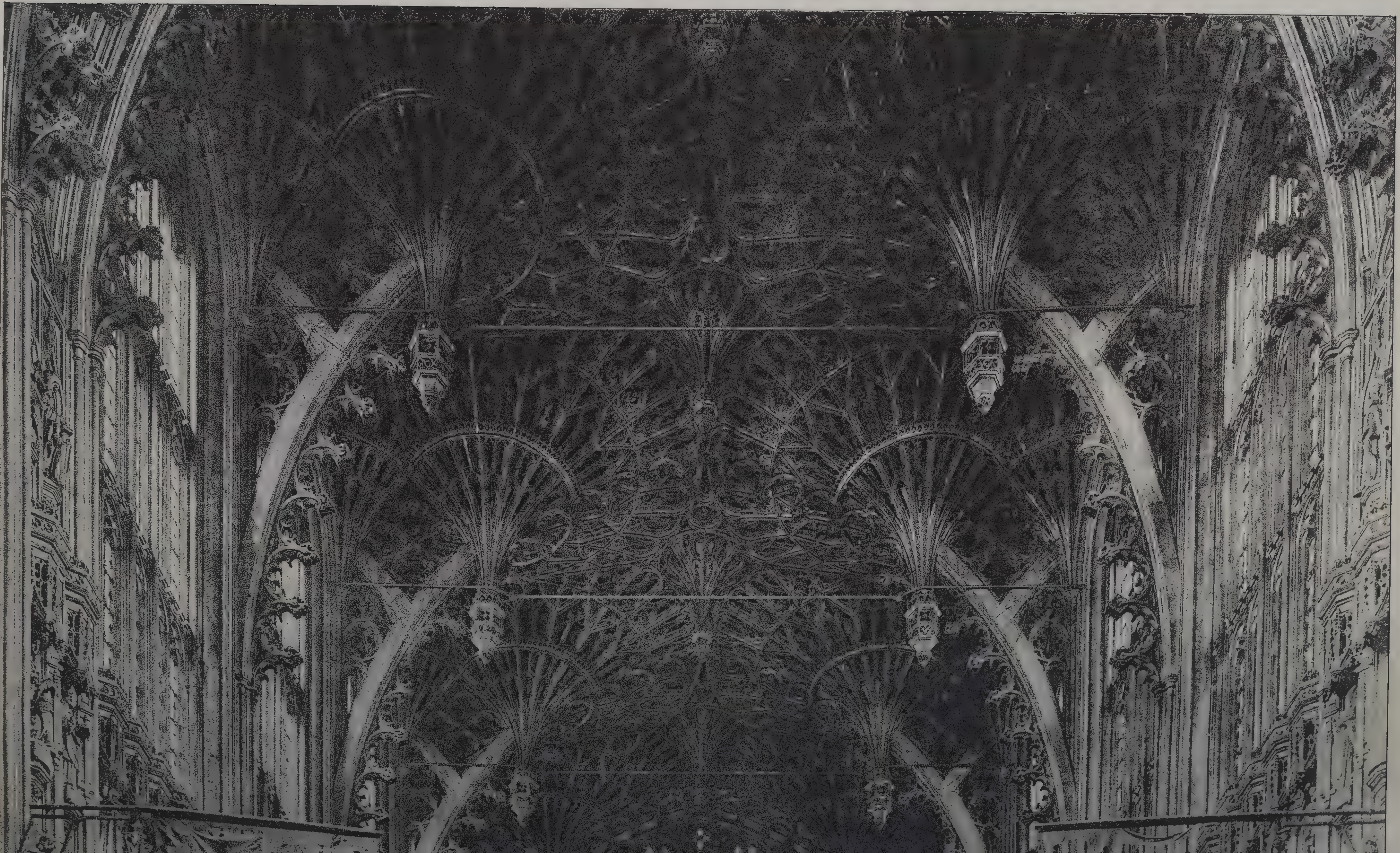
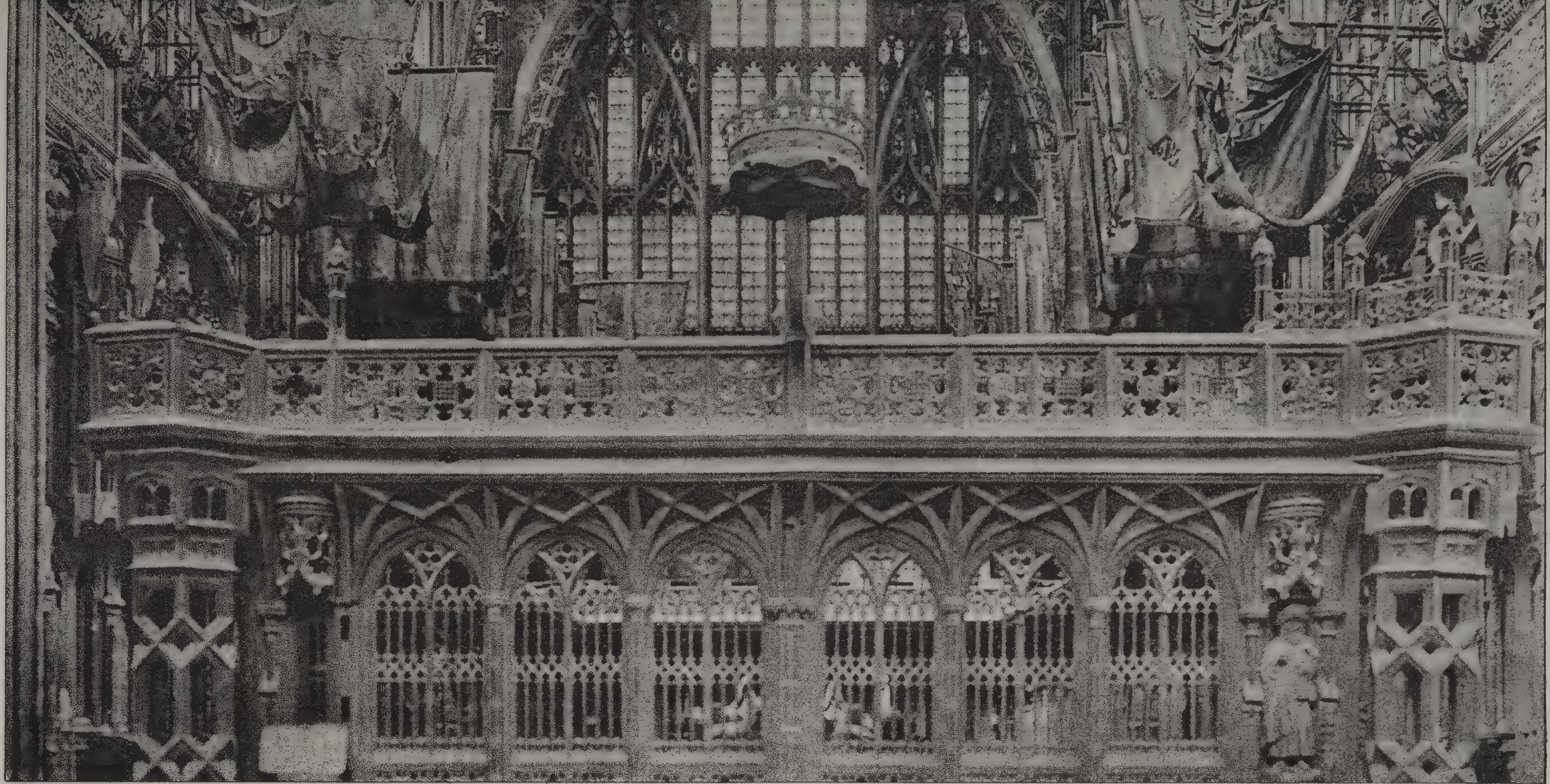
The Architect, June 22^{nd} 1900.





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WESTMINSTER ABBEY, No. 67.
HENRY VII. CHAPEL, SHOWING PENDENTIVES, &c.

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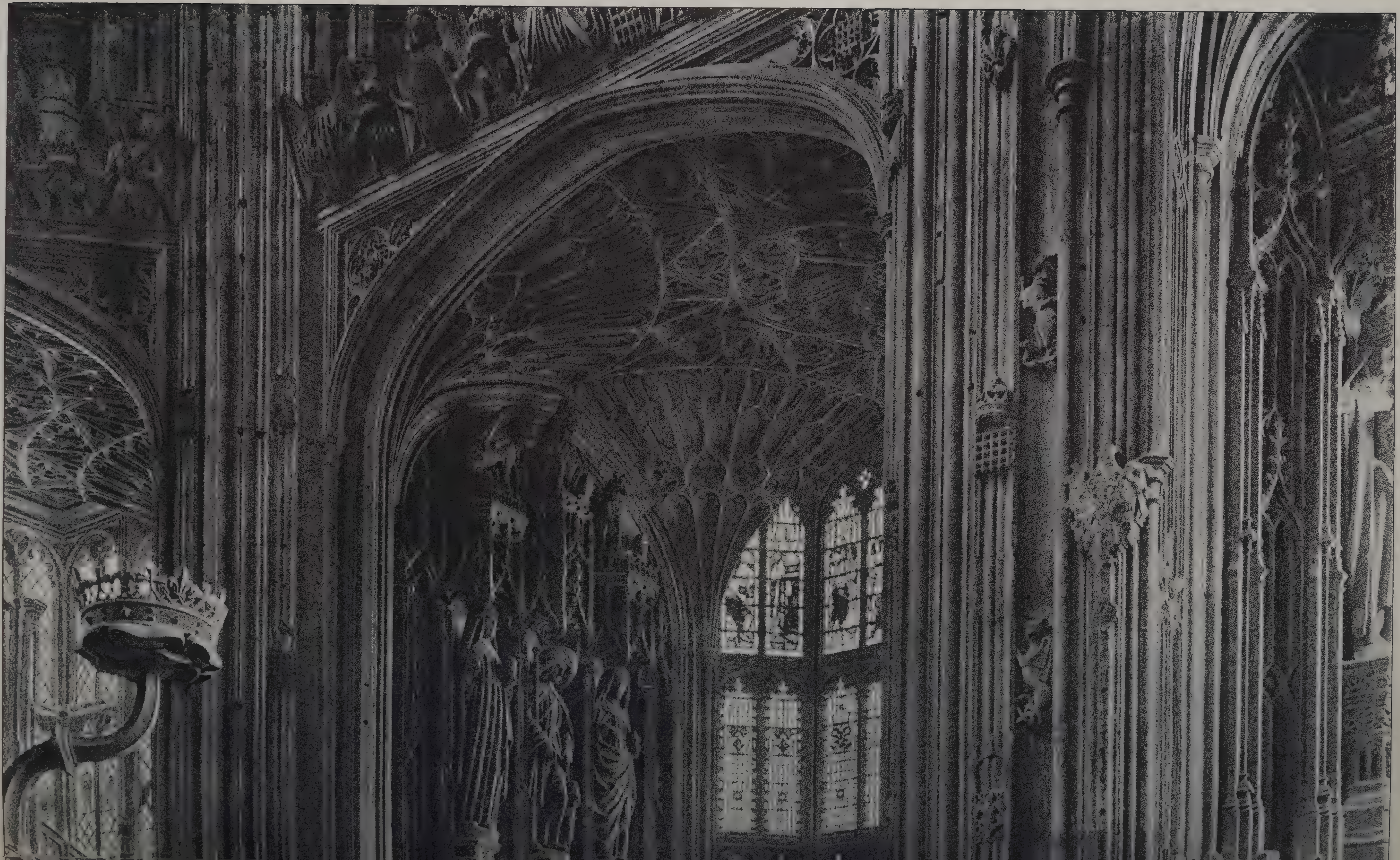

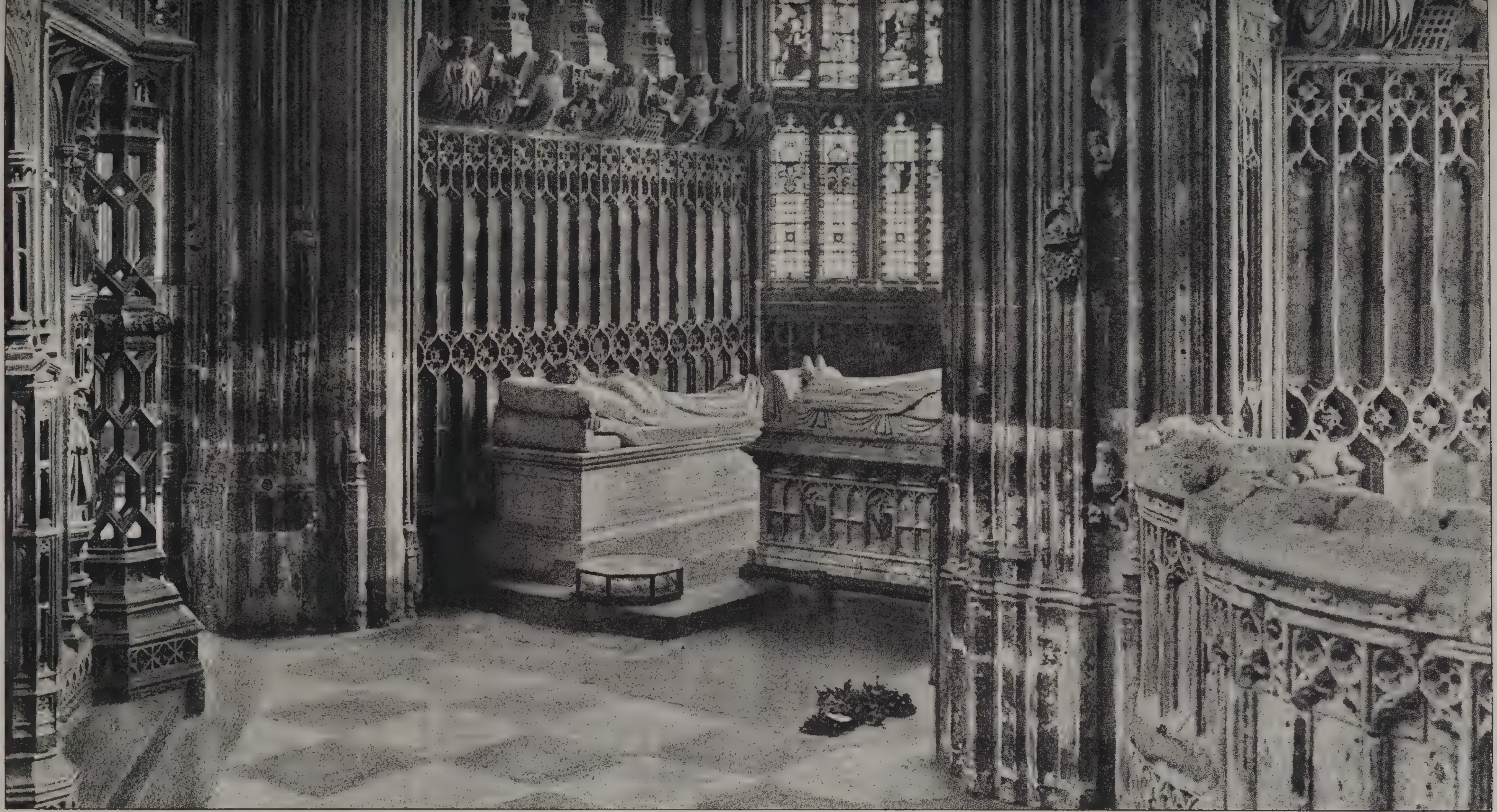

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Westminster Abbey, No. 66.

Monuments of Duc de Montpensier and Dean Stanley in Henry VII. Chapel.

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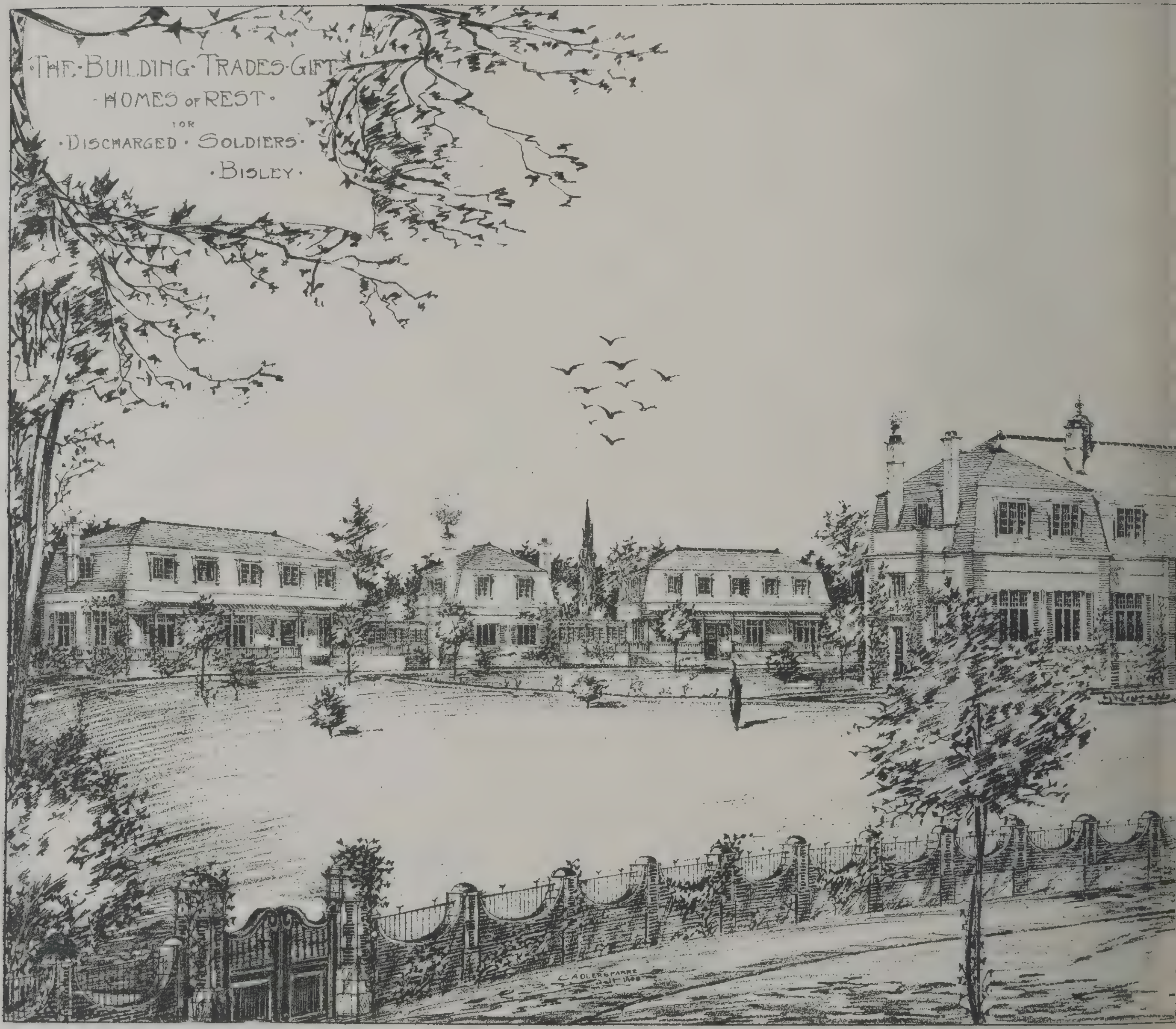

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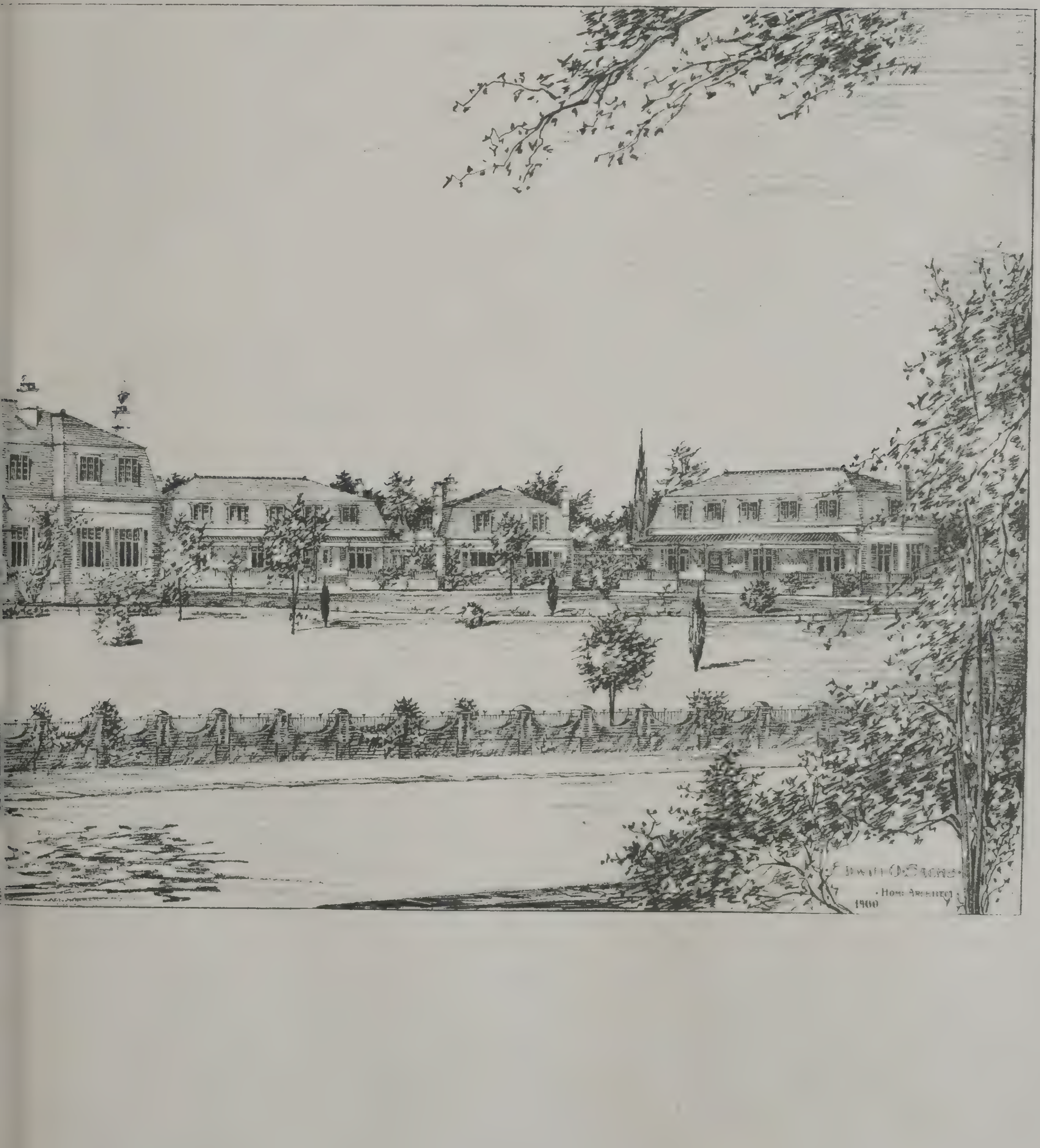

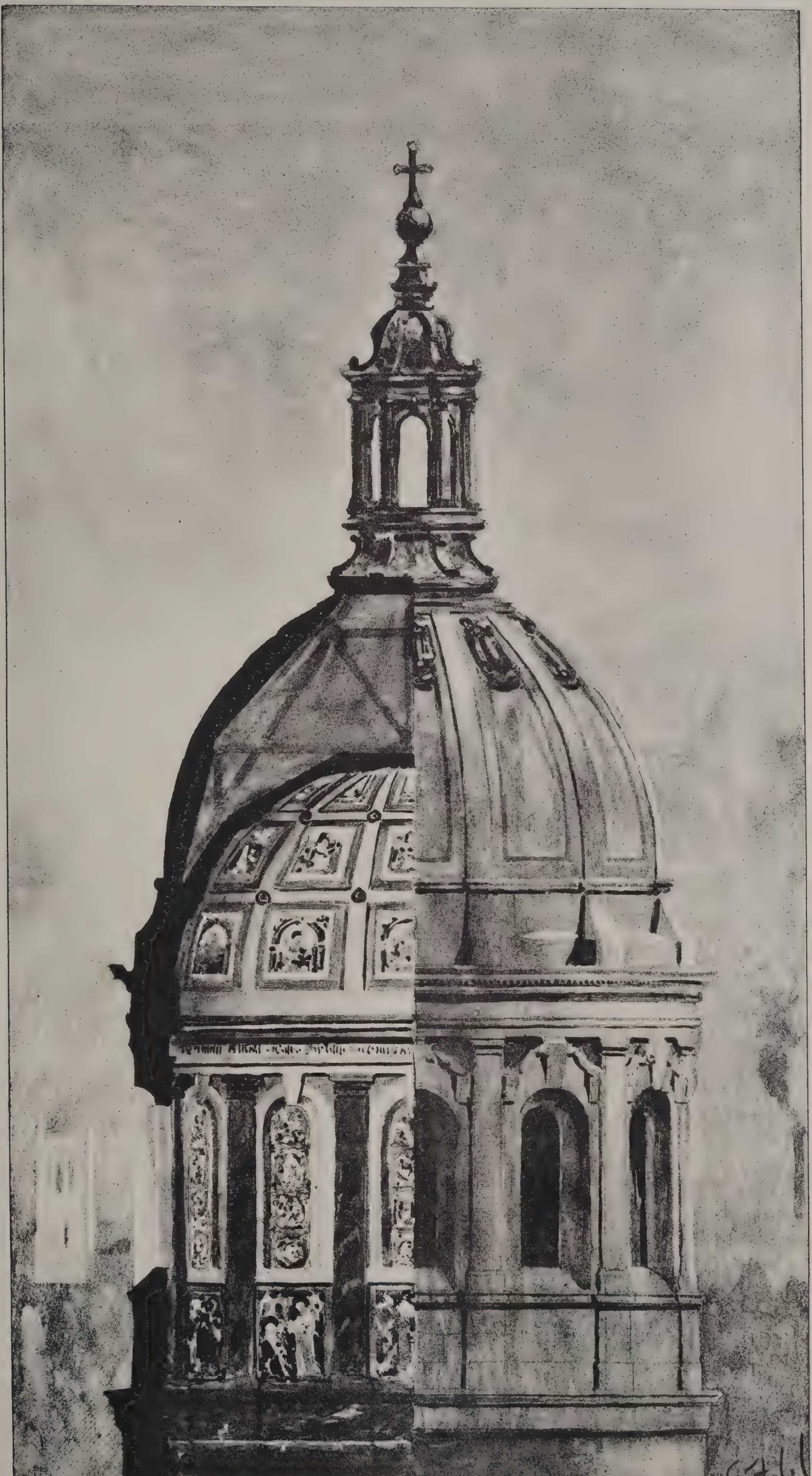

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ITALIAN HOSPITAL CHAPEL, QUEEN'S SQUARE, LONDON.

THE DOME.

T. W. CUTLER, Architect.

The Architect.

THE WEEK.

If the amount of money to be expended can be taken as a test, a competition has been decided this week in Liverpool which is of equal importance with that for the new Sessions House in the Old Bailey. We refer to the offices for the Mersey Docks and Harbour Board. The Manchester Canal has had the effect of inciting the Board to expend money liberally on the improvement of their property, and new offices as well as docks were found to be indispensable if Liverpool hoped to retain its importance as a port. Accordingly the local architects were invited to send in designs for board-rooms and offices. The prizes offered were 300*l.*, 200*l.* and 100*l.* Mr. Waterhouse, R.A., agreed to act as assessor. About a dozen sets of plans were submitted. The first prize has been awarded to the joint design of Messrs. Briggs & Wolstenholme, 3 Lord Street, and Messrs. F. B. Hobbs & Arnold Thornely, 14 Castle Street. Messrs. Woolfall & Eccles, Bank Buildings, 60 Castle Street, obtained the premium of 200*l.* The third prize of 100*l.* goes to Mr. James H. Cook (Messrs. T. Cook & Sons), 12 George's Crescent. The cost of the buildings will, it is said, amount to 300,000*l.*

In North *v.* Bassett, decided in 1892, it was held by the Court of Queen's Bench that the usage of the building trade—viz. that a builder whose tender for work to be done is accepted is liable to pay the quantity surveyor the amount reasonably due to him for taking the quantities by order of the architect—is reasonable and valid, and entitles the quantity surveyor to receive such amount from the builder. An Irish case also gives authority for the custom of paying the surveyor out of the first instalment received from the building owner. But suppose an instalment is not paid owing to financial arrangements between the builder and the building owner, in what position does the quantity surveyor then stand? That was the point which had to be decided in Mellor *v.* Britton, which came before Mr. Justice Bigham on Tuesday. The plaintiff claimed 411*l.* for taking out quantities for flats at Chelsea which were to cost 28,000*l.* The work was commenced, but instead of insisting on the payment of the first instalment, the defendant, who was the builder, took over the agreement which his employer had made with the freeholder. For the builder it was contended that his liability depended entirely on his receiving the first instalment. Mr. Justice Bigham, however, said that by undertaking to pay the plaintiff out of the first instalment the builder had incurred the obligation of obtaining that instalment. If proper steps had been taken the building owner would have been able to pay. A builder could alter his arrangements with his employer, but in doing so it must be without prejudice to the claims of other parties. Judgment therefore was given, with costs, in favour of the plaintiff. The surveyor's position is already too precarious to be further weakened, and his lordship's decision will accordingly raise an obstacle against one way of evading payment for quantities.

It is not right perhaps to connect fatality with a section of the London Building Act, but there is one which from the first should have been regarded with suspicion. Section 21 relates to an important exemption, and consequently should have been found in Part XVI. instead of at the end of Part II. of the Act, where it is entirely out of place. It runs as follows:—"Notwithstanding anything in this Act, any buildings to be erected upon any lands now belonging to the School Board for London, or over which they have powers of compulsory purchase or may acquire such powers in the present Session of Parliament, may be erected in accordance with the provisions of any Act in force immediately before the passing of this Act." That clause was interpreted by Mr. Francis at the Lambeth Police Court on Tuesday in a way that will be most unsatisfactory to district surveyors. A school for the London School Board was lately erected in Grove Vale, Dulwich. Mr. Ellis Marsland, the district surveyor, claimed from the builders, Messrs. Wallis & Sons, fees amounting to 32*l.* 1*s.* 3*d.* As the site for the school was purchased prior to the passing of the Act of 1894, they contended that the scale of fees should be charged according to the Building Act of 1855 instead of by the higher scale of the later Act. The magistrate had reserved his decision, but on Tuesday he said he had come to the conclusion that the only fees which were recoverable were on the scale of the Act of 1855. Instead of 32*l.* 1*s.* 3*d.*, the amount for which an order was made was 19*l.* 7*s.* 6*d.* As the issue is of great importance to district surveyors, a case was stated. It will be observed that, fortunately for them, the section cannot affect buildings which have been erected on sites purchased by the School Board since 1894, and it seems unlikely that when the section was drawn and introduced at random inappositely in the Act, any thought was given to a reduction of fees for buildings on sites which then belonged to the School Board.

The finance committee of the London County Council issue reports showing the insufficiency of the estimates as if they were proud of the losses. In the latest, which relates to work to March 31, it is shown that a few of the estimates were exceeded to the extent of nearly 20,000*l.* One of the works was in connection with the Crossness outfall. It was to be carried out for 34,617*l.*, while the actual cost has been 50,896*l.*, a difference of over 16,000*l.* Taking several works together which were estimated to cost 793,990*l.*, and which required a sum of 865,224*l.* for their execution, we have the startling difference of 71,234*l.* As consolation the unfortunate taxpayers are informed that in other works the cost was 6,694*l.* less than the estimates. Figures can be manipulated at will in Spring Gardens, and it is difficult to say whether those in the estimates or in the returns of cost are the less trustworthy. But low estimates when placed in comparison with tenders induce people to believe that contractors are excessive in their charges, and in that way honest men are wronged without any means of redress.

The Birmingham City Council having applied to the Local Government Board for authority to borrow 249,250*l.* in order to erect a lunatic asylum at Hollymoor, an inquiry has been held by Colonel W. Langton Coke. It was stated that 9,250*l.* was required for excavations, including huts for workmen, and the cost of the building, including a siding, but without furniture or fittings, would be 240,000*l.* In the competition, which was restricted to six architects, Messrs. Martin & Martin, of Birmingham, were successful. They have had much experience in planning asylums. When the tenders were received the lowest was found to be from Messrs. John Bowen & Sons, which amounted to 239,589*l.* By the omission of farm buildings and alterations the amount was reduced to 207,256*l.*, and the tender was accepted. Electric lighting will cost 15,000*l.*, the branch railway 3,731*l.*, professional charges will be 12,500*l.*, and 1,513*l.* is left for incidental expenses. There was no opposition to the scheme.

It requires no small skill and strength of memory to realise the numerous juries that have been appointed in connection with the Paris Exhibition. The latest is what is called "le jury supérieur." This body consists of the presidents and vice-presidents of the various juries, the delegates representing countries which have more than five hundred exhibitors, the members of the Council of Revision, numerous ministers of commerce and industry and the highest officials of the Exhibition. Among those who represent art in this tribunal are MM. Benjamin-Constant, painter; Chaplain, medallist; Detaille, painter; Gérôme, painter and sculptor; Guillaume, sculptor, director of the French Academy at Rome; Larroumet, secretary of the Academy of Fine Arts; and M. Vaudremer, architect. The duty of this exalted court will be to examine the awards which have been made by the various juries, and to certify their approval of them wherever that is possible.

THE WALLACE COLLECTION.

THERE was much disappointment in Paris when it was definitely announced that Lady WALLACE had bequeathed the whole of the collections formed by the third and fourth Marquesses of HERTFORD and her husband to the British nation. The owners were for so many years closely identified with the French capital, it was expected the works of art would find their way to galleries where they would have similar treasures for neighbours and where they were certain to be worthily appreciated. France should, however, be content with the arrangement which has enriched London. The superiority of French art cannot be questioned in England so long as Hertford House and its contents remain. For although Italian, English and German works are to be seen in the galleries, what makes them delightful are the French pictures, furniture, bronzes, miniatures, clocks, snuff-boxes, porcelain, &c. If the French examples were removed there would still be much remaining which is interesting, but the charm of the collection would, we fear, have vanished. By demonstrating its capacity to minister to the enjoyment of life, French art has gained a triumph which no national rivalry can prevent us from admitting.

We have so many admirable museums in London and the provinces, the peculiarity of the newest addition to them may not at first be evident. In an educational sense the collections in Hertford House are incomplete. But neither the third nor the fourth Marquess of HERTFORD, nor SIR RICHARD WALLACE, was thinking of teaching the public when expending vast sums of money on works of art. They had no other desire than their own enjoyment. They were without any ambition to demonstrate the truth of a particular philosophy of art, or to be reckoned among the discoverers of genius, or to resuscitate the fame of some ancient school. They loved to be surrounded with beautiful objects, and as they lived in Paris it was only natural they should prefer to obtain what was best among the productions of that city.

Visitors to Hertford House who desire to make the most of their new possessions will therefore do well to endeavour to put themselves in the position of the original owners, and to look on what is around in the SEYMOUR spirit. No one department, even of French art, is complete, and there are omissions which will be regretted. Among the paintings, for example, there is not one small work by CHARDIN, although his contemporaries and pupils found favour, and the opportunities for acquiring examples by him were numerous. Lord HERTFORD would no doubt say that he preferred FRAGONARD to CHARDIN, or the pupil to the master, and declined to be influenced by the opinions of other connoisseurs whose sense of beauty differed from his own. No doubt his lordship's judgment was not infallible, but in seeking his own gratification it is manifest he was more wisely inspired than if he allowed himself to be moved by the opinions of a large number of amateurs and experts. He must be an extremely rigorous critic who is able to discover in all the galleries of Hertford House a picture or an ornament which is not beautiful. On the other hand, it is well known that collections which were brought together by means of the best advice always contain much that is unsatisfactory. The only modern collection which appears to have been inspired by individual preference is that known as the JONES Bequest at South Kensington. The Piccadilly tailor made no claim to be an authority on high art, and he certainly never formulated any theory of æsthetics. He purchased objects to please himself, and the majority of them were of the French school. His gift to the nation is numerically of small extent when compared with the WALLACE Collection, but in both we can see the operation of an inborn perception of beauty and a recognition of the principle that the purpose of art is to give pleasure to the eyes. That may be a humble office, but it is one that is much needed. Unless we are mistaken, the generality of visitors to Hertford House will quickly realise the worth of what is placed before them, and they will find gratification of a kind which is not attainable in the British Museum or in the South Kensington Museum, any more than in Sir JOHN SOANE'S. For in the three museums universality is sought after, and in consequence good, bad and indifferent objects have to be brought together. Discriminating between them is an excellent intellectual exercise, but it cannot yield the spontaneous delight which awaits us in the mansion in Manchester Square.

That mansion is not without its effect in imparting character to the exhibition. When the committee was appointed in 1897 to consider the problem of housing the collection, it was fortunate that Mr. WATERHOUSE was one of the members. He could not fail to see the suitability of Hertford House to become a museum which would be as unique as the treasures it was to contain. The building now is as well adapted for its purpose as is the residence and offices of the PLANTINS for the museum in Antwerp. We feel we are in the chambers of a grand seigneur who had surrounded himself with the loveliest productions of men's hands, and the personal element imparts unusual interest. The British Museum chills the ordinary visitor on a summer's day, and HENRY COLE, who was a born showman, took care to avoid that defect at South Kensington. But all his efforts could not provide the associations which are attached to Hertford House. The cases at South Kensington are filled with objects which we know were bought for our instruction, and we feel we have no right to take delight in them.

There are two floors. On the ground-floor the rooms or galleries are officially assigned as follows:—I. Portraits of royal personages; II. French furniture; III. Painting of the earlier schools, majolica, Limoges enamels; IV. Sculpture hall; V., VI., VII. European armoury; VIII. Oriental armoury; IX., X. French and British schools of nineteenth century; XI. Paintings by OUDRY and DESPORTES, and miniatures. On the first floor, which is approached by a staircase with splendid ironwork at the sides, the rooms are devoted as under:—XII. French furniture, &c., and paintings by CANALETTO and GUARDI. XIII. and XIV. Dutch schools of seventeenth century. XV. French and British schools of nineteenth century. XVI. Italian, Spanish, Flemish, Dutch and English schools. XVII. Schools of seventeenth century. XVIII., XIX., XX. and great staircase, French schools of eighteenth century. XXI. and XXII. Water-colours. A provisional catalogue of the oil-paintings and water-colour drawings has been prepared by the keeper, Mr. CLAUDE PHILLIPS. Mr. G. F. LAKING has devoted a good-sized volume to the armour and arms, of which there are 1,343 examples. Catalogues have yet to be prepared for the majolica, enamels, ivories, pottery, miniatures, sculpture and various ornamental objects, which for many will be the most attractive part of the collection. Unlike most other museums, colour is here of at least equal importance with form, and a white marble figure seems out of place.

There are about 800 drawings and paintings, and they have nearly all a character in common—that is, in the representation of worldly subjects which are mostly of an agreeable kind. In order to preserve the unity it would have been an advantage if the sacred pictures could have been withdrawn or placed apart. They are not numerous, but they seem incongruous in this earthly paradise. It is not stated when those paintings were acquired, but the altarpieces recall the days when such works torn from churches were employed as foils to pictures of an unworthy character. In some of HOGARTH'S interiors we can see them side by side with pictures over which it was necessary to place a curtain. The necessity of a contrast is so imperative in arranging a gallery, much latitude must, we suppose, be allowed. But it is evident that Lord HERTFORD was aware he could obtain contrast by a different class of works. The importance given by him to representations of architecture reveals that his taste was founded on good sense, and that he employed the grand lines of buildings to give repose to his eyes when they had long enjoyed the figure-paintings. There are, for example, no less than nine paintings of Venice by GUARDI. By his pupil, CANALETTO, there are twenty, although they cannot all be accepted as works of the master. By the English DAVID ROBERTS there are seven characteristic paintings and drawings of cathedrals and churches, and he was unsurpassed in that class of representation. Among the thirty-six paintings and drawings by BONINGTON about a third have buildings for subjects.

Architecture was used to give a suggestion of stability indispensable amidst so vast a collection of pictures which deal with the comedy of life. The great master of the

Hertford Collection is Watteau, and when we remember that the Louvre possesses only one work by him, the *Embarquement pour Cythère* (of which we have published a plate), we can pardon the envy of the French when they see no less than nine of his masterpieces in Hertford House. The philosophers have preferred Nicolas Poussin, by whom there is one picture in the collection; but Watteau was a great artist, who realised that painting was not to be restricted by precepts of ethics or of science. He was an idealist although he never soared above the earth. Such scenes as he represented were not to be witnessed in France in the beginning of the eighteenth century, but they correspond with the aspirations of many who look upon them now. Lancret tried to work in Watteau's spirit, but although he never reached the apparent sincerity of his friend, yet the ten works by him in the gallery are captivating examples from a world where the inhabitants are always at play. Boucher also was inspired by Watteau, and he was among the most prolific of painters. He is as unaffected as Morland, and his large pictures on the staircase are most fitting preludes to the French work in the galleries. There are over twenty of his paintings, and although Poussin and his admirers might consider them frivolous, they have a decorative value which must be admired, especially when it is borne in mind how few were the colours that he admitted on his palette. Watteau's fellow townsman and pupil, Jean Baptiste Pater, who, like his master, died before he had attained his prime, is the author of fourteen pictures, and in no other instance is there so representative a collection by the master. He had not perhaps as light a hand as Watteau, but he employed his resources so well that his small pictures will bear comparison with any of those by his contemporaries. Fragonard was only a child of four when Pater died, but as he was taught by Boucher he carries on the Watteau tradition, adding to it not a little sensuousness. There are nine of his pictures in which trifling subjects are elevated into masterpieces. Greuze was in the early part of his career supposed to counteract the influence of the idealists from Watteau to Fragonard. The praise bestowed upon him by Diderot was not advantageous to the artist. Greuze therefore abandoned *La Malédiction Paternelle* and similar tragedies of humble life for single figures like the twenty to be seen in the collection. Where he discovered such attractive models remains unknown, but they could not have been French girls.

The Revolution was not without its effect on art. David became the Dictator, but few nobles would care to derive enjoyment from the regicide's realistic or classical pictures, and not one of them is to be found in the Wallace Collection. By his pupil Gros there is only one small picture, and there are two by Géricault, who was one of the first to rebel against David's canons.

Lord Hertford must have known many of the artists who competed in the struggle over romanticism and classicism. Apparently he was no more able to enjoy Ingres than David, but the refined academicism of Delaroche must have given him much pleasure, for we find eleven pictures, including a small replica of the *Children of Edward IV.*, *Cardinal Mazarin's Last Sickness*, *The State Barge of Cardinal Richelieu*. By Delacroix there is the *Execution of Marino Faliero*, which strikes a tragic note amidst so much that is pleasurable, and a small *Faust and Mephistopheles*. Decamps was one of the few favourites of Heinrich Heine, and the artist probably had no more constant patron than Lord Hertford. There are about thirty of his paintings and drawings, and among them the most fascinating are those of Turkish life and scenery. Artists were afraid to venture outside Constantinople, and Decamps deserves the credit of discovering a Turkey which is rich in subjects but which few have ventured to utilise. Couture was deserving of his lordship's support, but the great hand which painted the *Décadence des Romains* was not adapted to enter into rivalry with Meissonier in producing miniatures like the *Timon of Athens*, *Harlequin and Pierrot* and the *Duel*. Meissonier was another of the Seymour favourites, and England now possesses no less than sixteen of his renowned little works. *Polichinelle*, which is nearly 2 feet high, reveals his weakness when he attempted to work on what was a large scale for him. But the *Halting at an Inn*, *The Print Collector*, *Soldiers Gambling*, with various musketeers and cavaliers, are as characteristic as any works which exist. By Gérôme there are three paintings, *The Draught Players*, *An Arab Soldier*, *The Guard of Hareem*, early works on a small scale which exemplify the marvellous precision of his style. There was no more charming painter than E. G. Isabey before he took up marine subjects. The *Court Reception at a Château* is one of those pictures in which he seems to have taken his figures from some realm of the imagination. Eugène Lami was also a painter of Court pageants, but he came nearer to reality. There are five of his water-colours, including *The Royal Procession at the Opening of Parliament*. Another artist esteemed by the Seymours was Horace Vernet, by whom there are very many examples. At the Court of Louis Philippe there was no greater favourite than Ary Scheffer, but it would perhaps have been better for his reputation if he had confined himself to monochromes. Cynics used to say his colours consisted of snuff and green soap. There are half a dozen works by him, including *Gretchen at the Fountain* and *Paolo and Francesca*. Engravings after his works are more interesting than the originals, for he was wanting in colour sense.

The works they selected from the easels of contemporary painters afford a clue to the qualities which Lord Hertford and Sir Richard Wallace most enjoyed, and it would be an advantage if the visitor began with a study of them. It is evident there was a period when they became indifferent to the new schools. We have, for instance, only two of Troyon's cattle-pieces, and there is but a single work by Corot, *Macbeth and the Witches*, which is not sufficient to establish his great fame. We suppose the explanation is that a sufficient number of paintings had been collected to fill all the walls at disposal, and armour had become a rival attraction.

Living in Paris and being more of a Parisian than many of the natives, we need not wonder if we find the English pictures in the collection purchased by Lord Hertford are not numerous. The authorities of the Louvre were indifferent to English art, and although Lord Hertford could easily have convinced them of the wrong they were doing by their narrowmindedness, he never cared to exert that kind of influence. If we remember that the romanticists declared they were drawing inspiration from John Constable, the neglect to purchase a single example of the English artist was an act of disloyalty on the part of an amateur. By Turner there are only four drawings, which appear to have been made for illustrations. The two works by Wilkie are not remarkable. There is a drawing by William Callow and another by Sidney Cooper. We can see five drawings by Copley Fielding, three by Edwin Landseer, one by George Morland, two paintings and two water-colours by Clarkson Stanfield, and a *Venus* by Westall. But in compensation there are no less than eleven of Reynolds's portraits. It would be difficult to assess their different values. *Nelly O'Brien*, which was painted when the artist was in his fortieth year, will probably become the most popular, and after it the *Strawberry Girl*. The *Mrs. Braddyl*, which was one of his later works, was never surpassed by him, and, looking on it, we can realise the pain which the President endured when his eyesight failed. The other works are *Lady Elizabeth Seymour Conway*, *Mrs. Hoare with her Infant Son*, the *Countess of Lincoln*, *Mrs. Carnac*, *Miss Bowles*, *Mrs. Nesbitt with a Dove*, *Mrs. Robinson*, *Mrs. Braddyl*, *St. John the Baptist in the Wilderness*, the *Duke of Queensberry*. Gainsborough is represented by only two works, the splendid *Mrs. Robinson*, and *Miss Haverfield*.

The Dutch masters rarely have the elegance which was to be found among the French painters who gained favour with Lord Hertford, but their unimaginativeness was doubtless one of the causes to which we owe so many examples of the school. Rembrandt is exemplified by several works, the most famous being *The Unmerciful Servant* from the Stowe Collection. By Frans Hals there is only one work, *The Laughing Cavalier*, which is thoroughly characteristic. Cuyp's reputation will be upheld by several small works. There are two by Gerard Dow, five by Metsu, three by Paul Potter, two by Terbosch. Most of the examples by Rubens are studies for larger pictures, but there is beside a portrait of

Isabelle Brant, his first wife, and the famous "*Rainbow*" *Landscape*. There are also several portraits by Vandyke, the most important being *Philippe le Roi and his Wife*. Among the eight works by Velasquez, No. 88, *La Femme à l'Eventail*, alone appears to be unquestioned as a work of the master. It has special interest, for it is one of the very few extant portraits by Velasquez presenting a lady of the middle class.

Among the works of the Italian school the most interesting is Titian's *Perseus and Andromeda*, which was formerly in the Orleans Gallery. It was sold in 1798, and then was lost to view. That it "now for the first time takes its place in the Wallace Collection" is owing to its discovery by Mr. Claude Phillips. By Cima da Conegliano is the centre of an altar-piece representing St. Catherine of Alexandria, which, according to Dr. Ludwig, was once in the church of St. Rocco in Mestre, near Venice; the wings are in the Strasburg Museum. Suardi, who from being a pupil of Bramante's is known as Bramantino, is the painter of the *Head of a Girl* and *Gian Galeazzo Sforza reading Cicero*. Both are in fresco.

It is needless to speak about the examples of what is generally called industrial art which are to be found in the various rooms, for until the catalogues are published it would be difficult to distinguish them. It will be sufficient for the present to say that no less care has been taken in the selection of them than was exercised with the paintings. They too are evidence of a remarkable aspiration after whatever was beautiful in form and colour, and they are all so superlative it might easily be supposed that the paintings were only intended to serve as a background to them. The ornamental objects may have rivals scattered here and there throughout the country, but the collection of armour is unequalled in England. It has been said that "toutes joies et toutes honneurs viennent d'armes." The words may not be as true to-day as they were in Froissart's time, but it will not be difficult to discover that much pleasure can be derived from a study of the pieces which Sir Richard Wallace had the good fortune to secure from the Meyrick, the Nieuwerkerke, the San Donato and other collections. We can understand that so chivalrous a knight as Sir Richard Wallace often imagined himself in one of the suits and using some of the weapons, for that is among the fascinations of the possession of armour, but the British public may be no less imaginative if they desire. In fact, it would be difficult to limit the amount of gratification which the Wallace Collection can afford, and we hope the public gratitude will before long find expression in statues of Sir Richard and Lady Wallace.

THE NEW CITY AND THE OLD.

THE war in South Africa has, it is announced, reached a stage which allows of a consideration of the arrangements for the future government of the country. The first question to be determined is what town should serve as a capital for the new Transvaal. We do not propose to treat the subject from the politician's point of view. We touch it because we obtain an opportunity to suggest some of the differences between ancient and modern city-formation, and which must have an effect upon architecture in its grandest developments. For it is needless to say architecture as an art is a creation of citizens. Occasionally important buildings can be erected in country places. In Greece there were temples which were erected on sacred sites which men held dear, and which were visited by people from neighbouring towns. In Mediæval times there were many out-of-the-way places of pilgrimage which were marked by fine churches. Monastic communities, moreover, erected churches and convents in regions which were remote from towns. The Cistercians made it a rule to avoid the haunts of men, and preferred to settle amidst beautiful scenery rather than among houses. We must also take into account the Roman villas, and the country residences of nobles and wealthy people in succeeding ages. But memorable as are many of those works, the fact remains that the masterpieces of architecture have been found hitherto mainly in the streets of cities and towns.

It is not easy to explain what is the essential difference between a city and a town, and it is doubtful whether it is uniform. Blackstone defined a city as "a town incorporated, which is, or hath been, the see of a bishop." In courts of law that definition would no doubt be accepted as authoritative. But neither students of history nor politicians would be disposed to adopt it as universally applicable. Ancient Athens was undoubtedly a city in the highest sense of the term, but it owed its distinction to other causes than the presence of any dignitary connected with one of the temples. If Rome was a power in the world, it arose from secular causes. Coming to modern times, we find in the United States flourishing cities, but nobody supposes their prosperity and industrial activity is in any way influenced by the presence of a bishop or prominent ecclesiastic. It would be idle to question the claim of Westminster to be considered a city, although its bishopric was a failure, and only endured for a few years in the time of Henry VIII. If we could suppose a bishop was the chief ruler of a country, then, of course, the place where his throne was fixed would become a city, or it may be a capital, as happened in Rome from the decline of the Empire until fifty years ago. But it will take long before that mode of government will again come into favour with men. Blackstone's definition is therefore incomplete. It suggests, however, that power or authority of an unusual kind is necessary to constitute a city, and the question then becomes what is that power?

A correspondent of the *Times*, who writes from Bloemfontein and who appears to be a person of authority, suggests that Johannesburg should be selected as the future seat of government. He admits that Pretoria, which has hitherto been the capital, "contains certain public buildings in which the new Government can readily find a home;" but against that advantage must be set the fact that the political atmosphere of Pretoria is tainted, as it has been "the headquarters of Dutch Africanderdom." In Johannesburg the gold-mining industry, which is the principal in the Transvaal, will be in touch with the Government, whilst in Pretoria the connection would have to be conducted by means of underlings. The writer refers to the experience of the United States in support of his arguments. The busy men of New York City or Chicago, he says, cannot afford to exile themselves to Albany or Springfield, where the capitols of the two States are placed, and in consequence legislation has fallen into the hands of hireling legislators and professional politicians. Finally, the writer concludes that since "two-thirds of the life and nine-tenths of the business of the Transvaal are to be found in Johannesburg and its immediate neighbourhood, in this great nerve centre is the natural home of the Government."

Without going into the question whether Johannesburg or Pretoria is the more eligible capital of the British Transvaal, a question which will require experience in statesmanship to answer, we may be allowed to say the manner of presenting the subject suggests one of the differences between the ancient state of affairs and the modern. Although the distance from Johannesburg to Pretoria is not more than forty miles, it is taken for granted that the men who are engaged in industrial pursuits on a large scale would not undertake the journey to attend to Parliamentary duties, although at the present crisis their own existence and prosperity depend on legislative measures. It is proposed, therefore, to bring Parliament to their doors. In other words, there is an admission that public interests will be disregarded if they involve self-denial, and trifling private losses. We do not blame the British residents in the Transvaal. A similar indifference to public affairs is witnessed in London. Nine out of every ten men one meets in the Metropolis will condemn the extravagance of the County Council, but not one of the nine is likely to have recorded a vote in favour of a candidate who would endeavour to secure economy and proper administration. In America the indifference has grown to a dangerous extent, and the business of particular States, as well as of the whole country, is gradually becoming monopolised by professional politicians. Under these circumstances, who is to care for the amenity of a city, or will take steps to secure that its public buildings are creditable architectural works?

Take London, for example. The Houses of Parliament are not, after half a century, decorated to the extent that was originally arranged. It is only by slow degrees that the streets and other surroundings of the building are brought into a fitting state. If it were not for some unexpected windfalls to the Treasury, the erection of public offices in Westminster would be indefinitely postponed. Few of the ratepayers in London care to see municipal buildings erected which would be worthy of the greatest capital on the earth's surface. When a new thoroughfare is to be executed, people are indifferent to the procedure which is to be adopted for carrying it out, and if they learn that the arrangements with architects and engineers are penurious, they are pleased rather than dissatisfied. The truth is that London, like Johannesburg, is becoming a place where capitalists can thrive, and the desire for profit is so absorbing there is little energy left for civic purposes.

We must also take into account the fact that modern business pursuits are exhausting, and everyone who can afford it endeavours to live out of town. The example of London is followed elsewhere. One of the consequences is that every year Bills are introduced into Parliament which, under the guise of an extension of boundaries, seek for powers to get hold of men who endeavour to reduce their responsibilities for municipal rates to a minimum. Instead of tenanting costly premises, a room or two now suffices for office purposes, and in that case the money which should be forthcoming for public improvements is seriously reduced.

Under such circumstances as we have described, it is not to be expected that public improvements can be carried out in the manner that is to be desired. If we wish to have an "ideal city" we must first obtain ideal citizens, and they are not easily to be discovered. Sir J. Wolfe Barry, in his recent address on the overcrowding of London streets, suggests a kind of interest which now prevails not only in London, but in all large towns. He said nothing about the pleasing prospect offered by streets which are sufficiently capacious to allow the tide of commerce in the shape of carts, waggons and cabs to flow on uninterruptedly. He confined himself to an attempt at calculating what was the loss in money caused by continual stoppages. It was more eloquent than a rhetorical discourse on the subject, but it would have been more persuasive if it had been more precise. What was wanted was the loss to an individual representative of trade which arises whenever his cart is stopped in Fleet Street or in Newgate Street. That would be more convincing than elegant essays about the vistas offered by London streets when there is not an excess of conveyances in them.

Strange as it may appear, Pretoria, which it is proposed to abandon, had the chance of becoming a city that could be admired. The Boers might live in very plain buildings in the country, but they had sense enough to understand that a city with fine buildings, broad streets and pleasant public places is not without its effect on strangers who visit it, and in that way has political and other advantages. They had also the satisfaction of knowing that if they executed costly works the Uitlanders would have to bear the cost of them. When we call to mind the short period it has existed, and the character of the men who ruled it, Pretoria is a remarkable city, and, as we have seen, one of the reasons given for continuing to make it a capital is the accommodation which is to be found for the officials in its extensive public buildings. It would be a costly operation to convey them to Johannesburg, as an American would propose, but with so many large buildings existing it is not satisfactory to be told, "Remove the capital from Pretoria and it will degenerate into a village." There are, we suppose, occasions when not even architecture can save a city.

Practical convenience and political policy are the grounds on which the relative claims of Pretoria and Johannesburg will have to be considered. About the two as cities nobody seems to care a jot. Most cities in Europe and elsewhere appear to be fast descending to a similar position. They are used for the convenience of the inhabitants, who in general have no other interest in them. We lately referred to a case of fees in connection with a library for Congress which was erected in Washington. Before the claim could be considered the Courts had gravely to discuss whether Congress or the American Government had any right to erect such a building. In other words, the legislators might pass laws affecting the whole of the States, but whether they could lay out money for their own convenience was not evident at first sight, and it was only by assuming that the Government was at least equal to the authority of a Columbian township that the case was allowed to proceed. The decision is suggestive, for it confirms the statements which are often made by European governments, that they have no money which they can apply to public improvements. Just as Congress was supposed to have no more need now of a grand library than in its early days, the buildings used for the French Chambers have been allowed to remain in a defective state until the alarm arose that all the nations would be amazed at the neglect, and in a desperate mood money was granted for reparations. The English Parliament in every session becomes most censorious whenever votes are brought forward for money to be expended on public buildings.

We cannot imagine that formerly there was an equal indifference to the condition of cities. Athens, Rome, Florence, Venice and many others were regarded as living beings for whom affection was expressed through the medium of costly adornment. There were no doubt erroneous notions about sanitation, and it was not considered necessary to have broad thoroughfares for the display of the public buildings and statues or for the health of the inhabitants. But however narrow might be the streets, spaces were provided for the noblest architectural works which were obtainable. Those old cities possessed an autonomy which did not correspond with what we call local government, and the public buildings were an expression of its power. The large sums which Mediæval people willingly gave for the privilege to erect town halls and belfries were not contributed because those structures helped to increase profits, but because they were symbols of an improved status of the inhabitants. When a king or a feudal lord resolved to punish a commune and seized on bells and tower, the grief which followed was not inspired by thoughts of profit and loss, but arose from a sense of degradation in the people, who felt they had lost something more valuable than any charter. In England there was never a similar experience, for all the people were to be considered as enjoying equal rights, and the ruling powers never tolerated any assumption of unusual liberty by a town. But if the royal power had become weak or poverty-stricken, as happened abroad, it was unlikely that free cities would remain unknown in England, and with their rise we might have had an improved architecture. For it was generally found that cities, in gaining independence, gained some of the virtues, and, it may be, the defects of individuals. In that way rivalry between them sometimes went beyond all bounds, and building was set against building in competition. It is vain to desire a similar condition of affairs. Any rivalry between cities is now generally confined to arrangements for sewerage, tramways, lighting, water-supply, &c., and it is so subdued in character as to allow of the imparting of the secrets of success from council to council and surveyor to surveyor. The change in the municipal spirit is no doubt advantageous, but it removes one of the incentives to architecture, for buildings are likely to be considered as if they were no more than drain-pipes and tram-rails.

THE RESPONSIBILITY OF LOCAL AUTHORITIES IN RESPECT OF BUILDING BY-LAWS.*

It may be present to the minds of those who are members of the Royal Institute of British Architects that on June 12, 1899, that body passed unanimously a report drawn up by a special committee on building by-laws in the non-metropolitan districts of England and Wales.

Among the suggestions of the report was one that the Local Government Board should be requested to receive a deputation on the subject of these by-laws. On October 26 last a deputation which had to be hastily got together, and was consequently not as fully representative as might have been desired, waited at Whitehall on Mr. T. W. Russell, M.P., the Parliamentary Secretary of the Local Government Board. Several of the permanent officials of the Board were present. The immediate result I may describe to you in the report sent to the Council of the Institute and published in the Journal on Nov. 11, 1899.

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* A paper by Mr. Lacy W. Ridge, read at the Congress of the Royal Institute of British Architects on Friday, June 22.

"The deputation, referring to the report addressed to the Local Government Board by the Institute, laid before Mr. Russell the views of the Institute on the advisability of grouping the model by-laws for non-metropolitan districts in England and Wales, with the view to the adoption of such groups, and such only, as were applicable in particular localities; and the exemption from certain groups of by-laws of detached buildings standing within their own grounds; the uncertain requirements of local authorities as to the drawings required to be deposited, and their declining in some cases to give the grounds of their objections where approval of plans is refused; the establishment of a special technical tribunal of appeal; the extension to the provinces of the London system of dealing with rights as to party-walls, and other questions connected with the administration of building by-laws.

"Mr. Russell, in reply, said that, as regards the principle underlying the report, *i.e.* the advising by the Local Government Board of the local authorities as to what by-laws it would be best for them to adopt, it was always a delicate matter, owing to the jealousy of local authorities at the interference of a central authority. He thought the question of grouping the by-laws was a fair point for consideration. As regards the demand on the part of local authorities for drawings, such bodies often exceeded their rights; but in some instances powers were given to local authorities by special Acts. At the stage reached by the present Parliament, he could hold out no hope of legislation on the questions involved, but everything had been carefully noted, and should be submitted to the consideration of the expert advisers of the Board, who would report as to the extent it would be possible without legislation to meet the views of the Royal Institute. In conclusion, Mr. Russell asked whether it would be possible to confer with the deputation again. An answer having been given in the affirmative, the deputation thanked Mr. Russell for his courteous hearing and withdrew."

If the exigencies of an aged Parliament rendered legislation impossible in October the crisis through which the country has since passed has filled not merely Parliamentary officials but the general public with anxieties and considerations of such tremendous moment that the lesser evils which local legislation or administration can cause or cure have sunk into insignificance. It would, in the months that are past, have been useless to attempt either through the newspaper press, with their well-filled columns of startling and too often sad news, or through any other channel, to arouse public opinion on such a subject as building by-laws.

So far as legislation is concerned we must be content to wait in readiness to impress on a new Parliament the propriety of considering Bills for the extension of the metropolitan system respecting party-walls to the whole country; for some proper and equitable system of dealing with "ancient lights," and for such modifications as may be desirable in the Acts affecting buildings in non-metropolitan districts. Primarily, however, the report of the special committee was intended to deal with the by-laws under existing Acts of Parliament as a matter of administration only. Whether anything has resulted from the consideration of the expert advisers of the Board promised by Mr. Russell I am not in a position to say. It is not inconceivable that at such a time the blessings of peace may have special charms for those who are so comfortably described as "permanent officials," and that things are going on much as before; and that vast tracts of open, sparsely inhabited country are still being annexed to an ambitious little town somewhere in the neighbourhood, and the liberty of the inhabitants subjected to "urban powers."

Unfavourable, however, as the circumstances are for vigorous action, I felt that I should be almost "looking back," "after putting my hand to the plough," if I allowed a conference of architects to be gathered from all parts of the country here in London without at least offering to bring forward again this subject of building by-laws on which we have still so much work before us. The particular part of the report of the select committee to which I wish to call attention is its last paragraph. "The influence of those who are interested in building would have to be brought to bear upon the local authorities to urge them to give effect to the proposed measures of relief by adopting such, and such only, of the divisions of the by-laws as would be applicable to their district or to different portions thereof."

Gathered in this conference must be many who have great personal influence with the members and officials connected with local authorities, while nearly all must from time to time have dealings with them. Architects collectively and working together (why do not architects work better together?) should have an almost decisive voice in these matters. Any other profession would be recognised as *the* authority on any subject bearing so directly on its work as these by-laws do on our work, and would be allowed to suggest for enactment pretty much what it thought fit. Under the Public Health Act it is the local authority that makes the by-laws, and it has power to alter or repeal them by a subsequent by-law. It is merely provided that they shall not take effect till confirmed by the Local Government Board.

Now it is necessary that the true position of the local authorities should be understood in this matter. Possibly the more important corporations may know their own power, but the constant excuse for harmful by-laws given by members of the smaller bodies I find to be, that the by-laws are thrust on them by the Local Government Board. Mr. Russell, on the other hand, speaks of the jealousy of the local authorities at the interference of a central authority. The explanation of the difference is, I think, that the smaller authorities and their advisers are quite without the knowledge and experience which would make them capable of struggling against the centralised Board at Whitehall, and so take whole what is sent to them. Herein architects as a body might very effectively help these authorities, and I propose to call attention to three special points taken out of the Institute report as being of particular importance.

The first point on which architects ought to insist is that there should be definite and explicit regulations as to the deposit of drawings. This appears in the body of the special committee's report, page 450, of 1899 *R.I.B.A. Journal*. The principle is that a block plan, with drainage, public roadways and adjoining premises, should be deposited and left with the local authorities, and that other drawings should be submitted for inspection, stamped and returned.

"It is of great importance that the requirements of the local authorities as to the deposit of drawings should be reasonable, and that they should be explicitly stated. The committee suggest that in all cases a block plan, with the lines and depths of drainage shown thereon, together with the nearest public roadway and adjoining premises within 100 feet of the proposed building, should be deposited, and that, where required, plans and sections (together with elevations, if needful to explain methods of construction) should be submitted for inspection during a defined and limited time; which drawings should be then returned, stamped, if approved, or, if not approved, accompanied by a precise statement of the particulars in which the by-laws have not been complied with."

It seems to be a sort of tradition at Whitehall that the by-laws cannot go beyond saying that the plans and sections are to be deposited—a wonderful emanation, I suppose, from the legal mind. Mr. Russell, however, said he could see no objection to the by-laws making regulations as to the mode of deposit, and no wonder, for what the Act says is, "And they may further provide for the observance of such by-laws by enacting therein such provisions as they think necessary—as to the giving of notices, as to the deposit of plans and sections by persons intending to lay out streets or to construct buildings." Note the absence of elevations. "Provisions as to the deposit of plans," &c., is surely wide enough for a reasonable and definite arrangement. It is extremely objectionable that unnecessary drawings should choke up the offices of the local boards, and that architects should be called on to leave there in perpetuity plans of their works, to be studied at their leisure by the local surveyor—possibly a rival practitioner—and by his clerks. If for the public good persons about to build must make and deposit plans, they should at least be informed definitely what they have to do, and be put to as little trouble and, above all, subjected to as little delay as possible.

Next I would urge on you to get the local authorities to push the adoption of the Institute's by-law on party-walls (Division D, p. 451). It is long to read through, and might not be wholly intelligible at once. It gives relief, however, in the case of small houses in two particulars which will be much valued by investing builders; it settles the point up to which the party-wall need not be carried through the roof, so that in exposed situations (as along the south coast), where the difficulty of keeping out the weather is considerable, and the risk of fire very slight, the roof over a row of small houses need not be broken. It would also admit of a single-brick party-wall being used in cases where the by-laws now require, and require wisely, the use of one-and-a-half brick external walls. The main charm, however, of treating party-walls in a division by themselves would be that it would enable the local authorities in many cases to say: "You have laid out your streets with ample space, in accord with Division B; you will comply with the sanitary requirements of Division F; separate your houses properly with party-walls, as Division D, and we will trouble you no further; for it is impossible to see how you can be any nuisance or danger to your neighbours, and we will trouble you no more with by-laws." Taking such a position with small properties, or with pairs of workmen's cottages or villas, particularly in the country, would be a great relief to every one, and do much, very much, to obviate the ill-feeling which now constantly arises from insisting on useless trifles merely for the sake of enforcing the by-laws, as if that in itself were a good and wholesome thing—an opinion only too likely to grow into a fossil in the official mind.

Again, I would insist on the alterations named under Division E on page 452, whereby in a storey in a roof, and in the storey immediately below the roof (not being a ground storey), timber construction and weather tiling or plastering is allowed in place of brick in detached or semi-detached domestic buildings, and also that some credit respecting the thickness of the wall should be given for the tiles in weather tiling nailed to brickwork. Admirable, warm, sound and picturesque construction, very characteristic of some parts of the country, is being thrust out of use, not because it is defective or has been found wanting, but from pure ignorance, and because the by-laws were founded on the London Building Act. This was primarily a piece of panic legislation after the Great Fire, and directed, and rightly directed, against fire in a town crowded in a way we can hardly now realise. Many of its provisions are inapplicable where wind or rain, which are certain, are far more formidable than the very rare fire which soon burns itself out. The London Act landed us with Gower Street and Harley Street as the normal types of building. It is not for architects to acquiesce in the same sort of thing happening all over the country through the abolition of local characteristic styles of building.

Finally, let us ask the local authorities to remember that it is local government they have to administer; that they exist, not for the enforcement of a set of by-laws, whether they be useless or not, but for the good of the community; and that their office will be best promoted in the matter of building when they carry with them the intelligent goodwill of those that build, which they certainly will not attain by curtailing unnecessarily the liberty of the subject.

Mr. Charles Hadfield having moved the following resolution, "That in the interests of the art of architecture it is inexpedient that municipal buildings of a public character be designed and supervised by engineers or surveyors, having no architectural training and experience," said:—I do not think the resolution needs many words of mine to insure it a sympathetic reception from a representative meeting of architects within these walls, to which cling memories of so many great architects, whose names and deeds are inscribed on the roll of honour of this Royal Institute.

I need only cite *inter alia* Cockerell, Barry, Pennethorne, Butterfield, Scott, Street, and William Burges, that admirable, learned and accomplished man.

To the older members of this Institute, who, like myself, have listened, as enthusiastic students, to their voices in the past, these names should be, at a time like the present (which many of us regard as one of crisis and difficulty), a call to action in all matters which concern the safeguarding and enhancement of the art of architecture—that art whose evidence, as all history teaches, will have no small weight in the judgment which posterity will form of the British Empire of the nineteenth century.

In moving this resolution, it is far from my intention to utter any words of disparagement of the work of the civil engineer, of the land surveyor, whose calling, like our own, demands the exercise of high skill and ability, and who are all engaged in work of the first importance to the common good, much of it, moreover, being work which calls for sympathy and co-operation with that which is peculiarly the province of the architect.

I need scarcely allude in this connection to the laying-out of estates for building, and the formation and improvement of the arteries of our rapidly growing towns and cities, work on whose success the best efforts of the architect's craft are dependent. I would yield to no one in expressing a thorough appreciation of the inventiveness and skill evolved in the carrying-out of these public works, or of those great mechanical structures which will, perhaps, form the special distinction of the nineteenth-century engineer. But I fail to comprehend how the training of the civil or municipal engineer, or the land surveyor, or the many diverse duties which fall to his lot, can possibly qualify him to originate or to carry out architectural work of a character high enough to appeal to any man or woman of average culture, in an age when appreciation of great works of the architect is considered a part of a polite education. I define good architectural work to be that which is the peculiarly artistic outcome of skilful planning and sound construction. Both equally appertain to a plain building devoid of what are popularly styled "architectural features," and to a highly elaborated building—and I venture to submit that you cannot expect to get individuality, originality and interesting design without a well-ordered plan. I think, too, you will also agree with me these qualifications cannot be attained by the aid of "ghostly agency." Beyond all question "municipal buildings of a public character," such as town halls, public baths and libraries, hospitals, police and fire brigade stations, markets and industrial dwellings, demand the particular skill of the architect, whose especial province it should be to impress upon these works the marks of his intimate study of planning and design, and of that individuality which can never appertain to official architecture. With all our shortcomings this individuality has been recognised by foreign critics to be a distinctive quality of the best modern English architecture. I feel strongly that the system of conducting important building operations which has commended itself to the British public for the last fifty years, and which is now undoubtedly bidding for an increased sphere of influence, ought to be discountenanced, as being at variance alike with common sense and public utility. It is a system which is not tolerated by enlightened public opinion on the Continent, and I am glad to learn, on the authority of the *Builder*, that the American Institute of Architects has been taking concerted action on this subject for some time past, and with success; for they have brought about a considerable reform in the direction of removing architectural work from the control of the official surveyor.

I feel that I am speaking for most of you in expressing my own sympathy with the wide extension of municipal energy, which is one of the great progressive forces of our day, and I think I may fairly say that such a sympathy tends to increase one's regret that the great changes which this municipal enterprise is bringing about should result in unconsciously lowering the standard of national architecture, instead of being the means of fostering it, and that this, too, should happen at a time when, thanks to the educational advances of recent years, a marked increase in skill and originality may be looked for.

Municipal and Governmental enterprise is more intelligently developed in this direction in France, Germany and elsewhere on the Continent than it is at present in this country, adapting itself, as it does, to the æsthetic feelings of the people at large, and one is glad to note that already the representatives of more than one of our important municipalities are beginning to appreciate the fact. In the Middle Ages, from the time of the Social movements of the thirteenth century, the spirit which is actuating our great municipalities to-day was the factor which called into being the best efforts of the architectural craftsman throughout Europe, and made architecture *par excellence* the art of the people, and England from the thirteenth down to the eighteenth century was no exception in this respect, as many of our older towns and hamlets still bear evidence. I regret to say, however, that such evidence, at the inappreciative touch of the surveyor architect, is becoming a vanishing quantity. The ruin worked in this respect, notably in the last twenty-five years, is known only to those of us who devote our holiday months to looking up the legacy left by a past which appreciated architecture at its true value; and it is against this all-round vulgarising and lowering of the standard of architecture to serve the needs of a grasping, sordid commercialism—never more in evidence than it is to-day—that I have ventured upon these few remarks.

The following amendment to the resolution, moved by Mr. H. H. Statham, and agreed to by Mr. Hadfield, was put and carried:—

"That in the interests of architecture it is inexpedient that important buildings of a municipal character be designed and erected by the official engineer or surveyor to the municipality."

INFLUENCE OF GOOD TASTE.

A GENUINE perception of beauty is the highest degree of education, the ultimate polish of man, the master-key of the mind; it makes us better than we were before. Elevated or charmed by the contemplation of superior works of art, our mind passes from the images themselves to their authors, and from them to the race which reared the powers that furnish us with models of imitation or multiply our pleasures. This inward sense is supported by exterior motives in contact with a far greater part of society, whom wants and commerce connect with the arts; for nations pay or receive tribute in proportion as their technic sense exerts itself or slumbers. Whatever is commodious, amene or useful depends in a great measure on the arts; dress, furniture and habitation owe to their breath what they can boast of grace, propriety or shape; they teach elegance to finish what necessity invented and make us enamoured of our wants. This benign influence infallibly spreads or diminishes in proportion as its original source, a sense of genuine beauty, flows from an ample or a scanty vein, in a clear or turbid stream. As taste is adulterated or sinks, ornament takes a meagre, clumsy, barbarous, ludicrous or meretricious form; affectation dictates, simplicity and elegance are loaded, interest vanishes; in a short time necessity alone remains, and novelty with error go hand in hand.

An Exhibition of work done by the students of the City of Liverpool School of Architecture and Applied Art during the past session was held in the Walker Art Gallery on Saturday, Monday and Tuesday, the 16th, 18th and 19th inst.

NOTES AND COMMENTS.

A DECISION which has been given in the Scottish courts will not make builders more enamoured with the Workmen's Compensation Act. Last July a man was employed in a builder's yard at Aberdeen dressing stone. A particle of steel from his chisel struck him in the eye, which had to be removed, and in consequence he was unable to earn wages as a stone dresser. A claim was made under the Workmen's Compensation Act. The judge held that the builder, although he could not be said to be engaged on any particular contract, was an undertaker in the sense of the statute, that the employment on which the man was engaged was one to which the Act applied, and as the accident arose in the course of the employment the builder was liable to make compensation. He was ordered to pay the man 5*s.* a week until he was able to work for the same amount as he earned prior to the accident. The builder appealed. The questions on which the judgment of the Court of Session were sought were whether the premises or yard where the man was employed were a factory within the meaning of the Act, and whether the employment was one to which the Act applied. The Court unanimously answered both questions affirmatively, and the judgment of the Court below was approved. In a case of the kind it is impossible to see what precautions could be taken by the builder to prevent such an accident.

ONE effect of the circular issued by the Local Government Board on the 23rd inst. will be to increase the number of sanitary and other officers in towns. The document suggests the difficulty which the Government must experience in presence of the agitation for building houses for the working classes at the public expense. Evidently it was the intention of the Board to suggest that without incurring a most onerous liability for building much can be done if the powers which are now available were fully exercised. It may be necessary to demolish a vast number of existing buildings and to substitute a better class of dwellings for them. But it is hard that guilty people should derive profits from the transaction, for there is no doubt owners neglect their duties in carrying out repairs and in cleansing their property, because they expect that in proportion to its danger will be the anxiety of the authorities to purchase it and to pay an extravagant price for its acquisition. Common justice demands that before such a course is followed fines and penalties should be imposed. In London penalties of 20*l.* can be demanded as well as fines of 40*s.* a day in cases where houses are not suited for habitation. A liberal application of financial punishment in notorious cases of neglect would bring about many reforms in the existing dwellings, and the sooner steps are taken to carry out the law in that way the better it will be for the whole country.

CLOSING orders will not be of much use if all judges follow the example of Sheriff FYFE of Glasgow. An owner appealed against an order made by the Corporation. His lordship said the powers conferred were not given for any purpose such as improving amenity of streets, or insuring architectural symmetry, or that kind of thing. These powers of interfering with the property of other people are only given because it is necessary that the interest of property ownership must yield to the interest of public health preservation, and if this interest does not require the exercise of the statutory powers, then it is not proper that they should be exercised. In conclusion the Sheriff said the Corporation should respect the citizen's feelings as well as his property, and that, unless after hearing the proprietor, and considering the evidence put before them, they were satisfied the public health protection required such a step, they should not cause to be "affixed conspicuously" to a property a closing order, thereby, in the eyes of a public largely swayed by sentiment, branding the proprietor as a letter of property unfit for habitation. The closing orders were therefore revoked and the appellant was allowed costs.

THE Prince of WALES was able to pass over the whole length of the Central London Railway on Wednesday. About the convenience of the line there can be no question, for it has been desired for at least thirty years. It will have one advantage over the other underground railways in London, for the stations and staircases being lined by that admirable product "Opalite," of which Mr. WILLIAM GRIFFITHS is the sole London concessionnaire, they have not the gloom which was unavoidable when the Metropolitan and District Railways were constructed. It would be impossible to discover a more exacting test of the efficiency of "Opalite," and that it has so marvellously succeeded must be gratifying to those who have taken so much care in perfecting it.

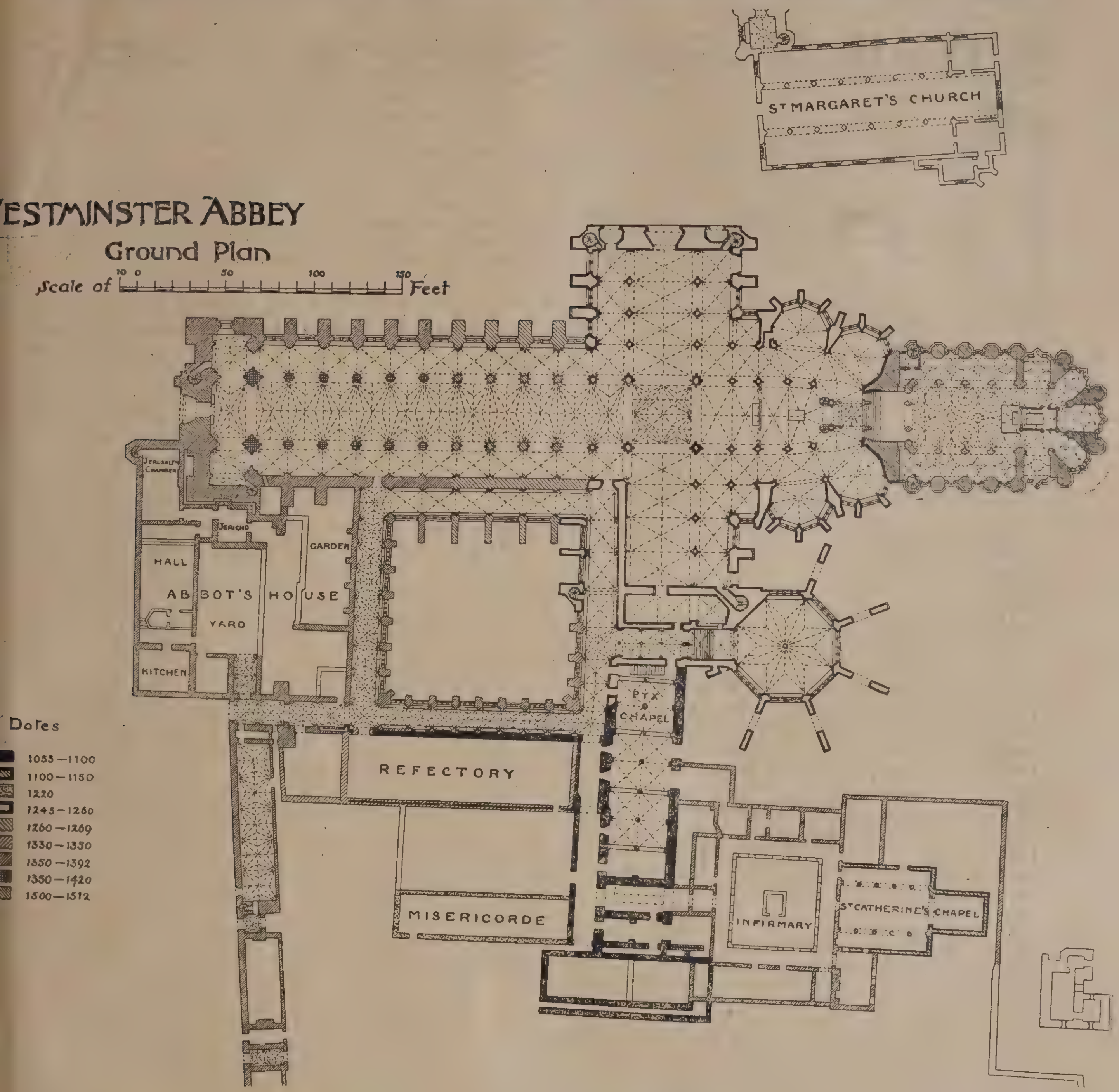
ILLUSTRATIONS.

SELECTED DESIGN FOR THE NEW SESSIONS HOUSE, OLD BAILEY INTERIOR OF HALL. PERSPECTIVE VIEW.

WE give this week reproductions of two of the drawings which were prepared by Mr. E. W. MOUNTFORD in his competition for the Sessions House of the City of London. The group of buildings will have to serve a variety of purposes, and in external appearance it was not to be expected there would be correspondence with the majority of law courts in this country. The Lord Mayor and Aldermen being important personages, accommodation has had to be provided for them. The four courts are approached from the central hall, which is surmounted by a dome. But the general arrangements will become more clear from the plan than from any description. The excellent masonry for which Newgate was remarkable will not altogether vanish, as it is proposed to employ the stones in the ground storey. Brick will be used for the walling, with Portland stone facings. Marble will be laid as paving in the halls and main corridors, and the courts and principal rooms will be wainscotted. Steel joists will be largely utilised for carrying the fireproof floor, and the framing of the dome will be of that material, with an exterior covering of copper. The courts are to be lighted from the roofs, and an arrangement will be adopted to obviate draughts.

WESTMINSTER ABBEY: CORNER OF LITTLE CLOISTER. THE JERUSALEM CHAMBER. RECUMBENT FIGURE OF MARY QUEEN OF SCOTS, FROM MONUMENT IN HENRY VII.'S CHAPEL. THE WILBERFORCE MONUMENT.

MARY QUEEN OF SCOTS was after her execution in Fotheringay Castle buried in the cathedral of Peterborough. Fifteen years later her son JAMES I. of England gave orders that the body was to be removed to the church at Westminster, as the place "where the kings and queens of this realm are commonly interred." He also directed that the like honour might be done to the body of his dearest mother, and "the like monument be extant of her that had been done to his dear sister, the late Queen ELIZABETH." The monument which was erected is in the Renaissance style which was then in vogue, and the two structures which are the memorials of the rival Queens ELIZABETH and MARY are most incongruous in a Gothic building. Last week in one of the illustrations of the chapel the memorial of the Duc MONTPENSIER was introduced. He was the younger brother of LOUIS PHILIPPE, and he died while an exile in England in 1807. The Latin inscription on the tomb was written by DUMOURIEZ, the general feared by BUONAPARTE, and records how the prince "hoc demum in Regum asylo requiescit." Dean STANLEY and his wife have been laid near the Orleans prince. We publish this week illustrations of some of the buildings attached to the Abbey. The Jerusalem Chamber is supposed to have derived its name from tapestry and paintings showing scenes from the history of Jerusalem, which once adorned the walls. The earliest mention of it is in a document of the time of HENRY IV., which implies there was an earlier room bearing the same title, viz. "a certain chamber called of old time Jerusalem." As we know from SHAKESPEARE, HENRY IV. died there. The room was used for conferences of ecclesiastics and served as a chapter-house for many years.



THE EDUCATION OF THE PUBLIC IN ARCHITECTURE.*

THE subject on which I have been invited to address you to-night is one of such intricate difficulty, and so closely connected with wider questions, that any reflections I may offer you are only in the nature of prolegomena. That such a subject should be suggested for discussion at this Congress is significant, for it points to the fact, with which we architects are painfully familiar, that the public does want educating in architecture very badly; and in saying this, no imputation is made against our individual clients. The mere fact that they come to us shows (at least we think so) very excellent good taste, and though this impression is not always maintained, and occasions have been known to arise in which the architect has had to admit his inability to cope with his client's tenacity as to plate-glass and other matters which vex the souls of the righteous, yet on the whole and properly handled, the client will usually follow his architect's lead. I shall, therefore, not attempt to deal with that most tempting subject, the intellectual relation of architect and client. What we are here concerned with is the general standard of intelligence in regard to architecture, the appreciation and misappreciation of the art as shown by current judgments, whether in the press or elsewhere; the evidence of taste displayed in actual buildings which reflect the average opinion of the times. The attitude of the man in the street is the problem with which we have to deal.

Now I fear there can be very little doubt that this attitude is far from satisfactory. I think that any competent observer who took note of the average of architecture in our great cities would be driven to the conclusion that the general level of taste and ability is low; further, he would find that some of the least admirable of these buildings were the most admired; and, lastly, if he compared his observations not only with the criticisms of the press but with individual opinion he would find no common standard of appreciation, merely a mass of unrelated judgments, amounting to little more than individual expressions of like or dislike. He would, in short, find public opinion on architecture in a state very little removed from chaos. He would find that there is no intelligent body of opinion to which a competent architect can appeal as a matter of course, and that the public in the pursuit of architecture are like sheep without a shepherd. The uncertainty of taste shown in the treatment of public buildings of the last fifty years—shown I do not mean by the architects but by the authorities responsible—is conclusive evidence of the confusion of judgment which exists in the minds of our representative public men. First we had the Houses of Parliament, then the Foreign Office, then again the mediævalism of the Law Courts, and now (I think fortunately) the Classic of the new Government buildings. It is evident that the authorities have had no sort of principle to guide them, and so the pendulum swings backwards and forwards. Unhappy officials, burdened with a responsibility of taste beyond their capacity, catch wildly at any passing fashion. Their chief idea seems to be to make a desperate bolt for cover; as for any consecutive tradition of taste, any steady development of ideas on architecture, the case seems as hopeless as ever.

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* A paper by Mr. Reginald Blomfield, read at the Congress of the Royal Institute of British Architects on June 21.

It has been suggested that this state of affairs is inevitable, that it is the penalty we pay for the individualism of English genius; that though the French do in fact possess a traditional standard of taste and technique, they do not reach the excellence attained by Englishmen in isolated instances. There may be some truth in this view; we cannot have a school and at the same time genius breaking out in all sorts of different directions at once. That we have no school in this sense is quite certain, for the Academy exists for other purposes, but it is to be doubted whether we nowadays produce genius in sufficient quantity to compensate for this absence of tradition; and at any rate this deficiency has not always been characteristic of English architecture. If, in the last century, Mr. Vardy or Mr. Ware, Mr. Wood of Bath or Mr. Flitcroft, were called upon to design a building, they knew exactly what they had to do; they had no necessity to clear the ground by a long preliminary discussion as to the style to be adopted. Given the client's general instructions, everything followed as a matter of course. The workman had all his details at his fingers' ends, and the client would have been much surprised if he did not get a house up to the accepted standard of taste, and as like as two peas to the 999 "seats of the nobility and gentry" then being erected in every part of England. Everything went as smoothly as clockwork. Such a state of affairs has, of course, its defects. It may lead to dulness, pedantry and stupidity, yet architecture is so difficult an art that it is only by long-continued effort on familiar lines that any excellence may be attained; and without this state of things we should never have reached that complete accomplishment within prescribed limits, that clean precision of workmanship which is so essentially characteristic of early eighteenth-century work in England.

But about 150 years ago a new element appeared. The amateur and the virtuoso assumed an importance they had never previously enjoyed. Distinguished noblemen dabbled in design. Eminent men of letters amused themselves with architecture. In 1750 Horace Walpole writes, "I am going to build a little Gothic castle at Strawberry Hill," ominous announcement of the impending change, and in the next few years Walpole completed his ridiculous house, to the admiration of all his acquaintance. The worst of it was that, though perfectly absurd in his notions of architecture, Walpole was a man of brilliant literary ability and a reasonably good connoisseur. Moreover, he thoroughly understood the temper of his class, and the consequence was that his ideas "caught on" and were accepted by a good many foolish people as a necessary part of polite taste. Moreover—and this was where the mischief came in—they took their place in that Romantic movement in literature which was soon to overrun the whole of civilised Europe. It is rather curious to reflect that the eighteenth century, supposed to be *par excellence* the century of logic and lucidity of thought, should have seen the birth of that confusion of ideas as to the limits and relations of the different arts from which we suffer at the present moment. Joseph Spence, an intimate friend of Walpole, wrote an elaborate treatise to interpret plastic art in terms of poetry, and, though this book was pulverised by Lessing, his fallacy, or rather the temper of mind which admits of it, is extant to this day. Walpole subordinated architecture to the elegant insincerity of his own literature, and the loss of all tradition in taste and standards of judgment was now only a question of time. Literary men had got the control, and it was not for mere architects to dislodge them. Moreover, these very architects were too often their humble and obedient servants. Though Chambers, last of the Romans, made a determined stand for the old ways, Robert Adam devoted his extraordinary cleverness to the introduction of a new manner in design; the Dilettante Society had set the ball rolling, according to the latest lights of Stuart and Revett; and now there was this direct attempt being made to reproduce Gothic architecture, in obedience to a purely literary sentiment. It was hardly to be wondered at that the layman should lose his bearings. In the heat and turmoil of all this revivalism he might be pardoned for thinking that taste in architecture was a mere matter of pitch and toss.

Thus this century opened with three styles struggling for ascendency. The old traditional Classic of Chambers and his school; the new Greek method, which was to be carried to such a high degree of excellence by Decimus Burton and later by Thomson of Glasgow; and, lastly, this revived Gothic. All architects of reputation followed one or other of the first two manners. The amateurs stuck to the Gothic, and the amateurs carried the day; but when one considers that the whole force of the Romantic movement was behind them the result is not surprising. So Wyatt, or Wyattville, or whatever he chose to call himself, started his career of architectural murder. Then Pugin followed, and threw himself into the cause with the enthusiasm of a very ill-regulated mind; and then came Ruskin, a man of narrow prejudice but brilliant genius, whose eloquence won a sort of St. Martin's summer for the Gothic movement, prolonging its life quite two generations beyond its appointed time. I need not follow further the familiar history of the Gothic movement, but there is one important conclusion which I should venture to draw from this hasty survey, and it is this: All these men, from Horace Walpole to Ruskin, seem to me to have laboured under one very serious vice in their handling of architecture. If I may say so, they all took their eye off the ball. Walpole treated architecture as a subordinate expression of literature. Pugin, and still more Ruskin, translated it into terms of ethics. The result has been that the idea of architecture as an art, with its own limits, its own technique and its own ideals, has been forgotten, and one has almost to say lost. Volumes of eloquence as to the moral beauty of certain forms of architecture not only teach one nothing, but are actually misleading as to their artistic value. For an architect may be a very good man, and design and build with the utmost sincerity and moral enthusiasm, but his work may be exceedingly bad; witness that childish building, the Museum at Oxford. And, on the other hand, it is very well known that artists of distinguished ability, whose work has had a singular fascination for intelligent judges, have been, to say the least of it, not immaculate. The critics have, in fact, set up an irrelevant standard; they have concentrated attention on matters which interest them, but which have no more to do with architecture than with boot-blacking, and we stumble here on some of the radical defects of serious English criticism. That strenuousness on which we pride ourselves has the result either of making our critics take their subject as a text for their own rhapsodies, or else it drives them out into action in the form of a directly moral application. They seem incapable of that cool and equable sympathy with every man on his own merits, that patient waiting on the development of genius which gives its extraordinary value to such criticism as that of Sainte-Beuve, for the function of a critic is to explain and interpret, not to substitute his own personality for that of his subject.

We have thus arrived at two results: first, that public opinion on architecture is practically non-existent, that is, its judgments tend to be irrelevant and to rest themselves on side issues; secondly, that this has resulted from the subordination of the art to the amateur, more particularly the literary amateur, and the question now arises how this state of things is to be dealt with.

In the first place it seems to me that a fresh philosophy of art is necessary, or rather a return to that clear understanding of the limits of the various arts on the lines laid down by Lessing 130 years ago. We have to recover and drive home the truth, that if the arts have some common ground, yet they differ essentially "*ὕλῃ καὶ τρόποις μιμήσεως*" in their subject matter and technique, and what Lessing did for poetry, painting and sculpture we have now to apply to architecture. We architects have to build up in the public mind the conception of architecture as an art, with its own methods of expression and its own problems. We have to make it clear that architecture is not sculpture and painting, but architecture; that, given the practical conditions to be complied with, the architect has to treat them *secundum artem*—that is, that his concern is with proportions, mass, and light and shade. It is easy to sneer at the old jargon, such as the relation of solids to voids, and the like, yet these remain a general description of the actual difficulties in design that our art has to attack; and our skill should show itself not in the skilful reproduction of other people's buildings, or somebody else's motives, but in this exact adjustment of proportions, in the subtle management of light and shade, of shadows and reflected lights. It is due to the causes which I have endeavoured to indicate above, that this conception has been thrust on one side, even by architects themselves. There is, and has been for the last few years, a very favourite watchword among some of us, "Art is one," and under cover of this motto the crafts have manœuvred a skilful and insidious attack on architecture. The architect has been relegated to the position of the useful drudge who blows the organ while the craftsmen play on it. His function has been supposed to be that of providing an occasion for the arts of the sculptor, the painter, the metal-worker, the enameller and all the others of the noble army of craftsmen. If the architect's architecture gets in the way it must get out of it, even to the destruction of the finest architecture in the kingdom; and in this way the architect is considered to establish his claim to be a member, though, indeed, but a poor relation, of the family of artists. As to this Shibboleth, of course all art is one, also it is not. It is one in the sense that, to the exercise of any art, some measure of imagination and practical invention is necessary, and again in the sense that any work of art is an expression of the human intelligence. In this sense the saying is true, but it is also a harmless platitude. If we try to get at the facts we find that all art is not one, that, on the contrary, each art has its separate province, divided from its neighbour by neutral ground which either may occasionally invade, or which they may fairly occupy in common; yet their separate limits ought to be strictly maintained in thought, and both in this and in many other instances the crying need is for clear ideas. It is to this groundwork of thought that I think we ought to direct our attention if we hope to educate the public. It is very desirable that the layman should know the history of the architecture of his own and other countries. His ideas will gather shape and colour from actual instances, and it is almost necessary that he should have some acquaintance with acknowledged masterpieces, in order to acquire some practical standard of judgment. Yet it is the use of this standard that constitutes the real difficulty. It is of very little use having a standard, and even a great mass of knowledge, if you have no idea how to apply it; in other words, it is of very little use to supply the public with facts and pattern books until the public mind is prepared to receive them, and it is here that the real difficulty of education begins.

There seem to me, generally speaking, to be three channels through which public opinion can be reached:—(1) By direct school teaching, (2) by treatises, (3) by the work of architects themselves. In regard to school teaching a good deal more might, I think, be done in this direction than anyone seems to contemplate at present. In most of our important public schools there is an art museum of sorts, a drawing class, run on rather old-fashioned lines, and usually some intelligent master with a cultivated interest in the antique and a sentimental attachment to early Italian art. Now I am not in the least depreciating the work so done. It is good, as far as it goes, and is a very great advance on the neglect of any such teaching habitual thirty years ago. What is wanted is a more complete organisation of this teaching and a more comprehensive scope. Boys, those at any rate with reasonable powers of observation, are quick to pick up impressions, and there can be no doubt that they acquire some valuable elements of culture from the casual information that they are able to gather in this manner; yet I think I am correct in saying that the boys' attention is called to art, not from an artistic, but from a literary standpoint. Our public schoolmasters are, as a rule, very excellent educationalists; there are probably none better in matters of scholarship and literature, but they regard the arts from the point of view of the average British public, rather as an elegant and perhaps superfluous accomplishment than as a serious expression of thought. Architecture in especial—I may say it in this company—from every point of view the most important of the arts, is hardly ever dealt with in our public schools. A boy gets some slight acquaintance with Greek and Italian sculpture from the casts in his museum, and learns the names at least of the great painters; he may also hear something about churches and buildings from the school antiquarian society, but of architecture never a word. I recollect the amazement of my uncle when I went into his office at three-and-twenty and did not know the meaning of a mitred joint; yet such ignorance was not only the natural but the inevitable result of the school and university education of the time. What I think might be possible would be (1) to provide a well-selected set of architectural drawings of well-known buildings and the simplest possible technical diagrams, such as should be easily intelligible to the schoolboy mind; (2) to give an occasional reading in architecture, dealing with its simplest points, and illustrated by models and clear drawings. The object of any such lecture should, of course, be merely introductory—that is to say, it should not attempt any elaborate disquisition on styles, or even on history, and should carefully avoid any attempt at technical instruction. What is wanted is such a handling of the subject as will call the boy's attention to architecture, and give him an interest which he can develop later if he has any aptitude that way. By this means the ground would be broken up for the more detailed courses of instruction, such as are provided by the Architectural Association, Liverpool and London Universities, King's College and the like, and even if the study were carried no further it would leave an intelligent interest in the art, and have an educational value of its own. Some sort of architectural text-books for beginners is, in fact, badly wanted; but the necessity of extreme clearness and simplicity of treatment, in addition to a comprehensive grasp of the subject, makes the preparation of such a text-book a matter of very great difficulty; yet it ought to be possible to prepare such a work, and I commend the problem to our professors of architecture. Something has already been attempted in this way in the University Extension Lectures. I have no experience to offer on this subject, but it appears to me that the lecturer labours under two serious disadvantages. In the first place, he has to address a mixed audience, mostly of an age at which learning is not so easy as it used to be; and secondly, he has to make his lecture popular and attractive, otherwise his class falls to pieces. Moreover, so far as I understand, every lecturer is free to follow his own devices, with the result that what one man builds up another pulls down. At every point, in fact, in our attempts at education in architecture we are brought up short by this want of a common standard, this loss of all established tradition.

The same difficulty meets us in the attempt to influence opinion by books and treatises. It was easy enough to lay down the law about architecture, when the five orders and their strict observance constituted the law and the prophets. In Wren's time there was no necessity to educate the public. Evelyn did all that was wanted when he translated Fréart's Parallels. But nowadays we have no law; and if we architects are not agreed among ourselves as to the principles on which we should appreciate each other's work, it is inevitable that the public should be hopelessly at sea. Yet I believe that our differences of opinion are more superficial than serious, more the result of misunderstanding than any insuperable cleavage. Whatever our individual divergences of manner, a really fine piece of architecture is usually accepted as such by most of us, and the problem before us is to disentangle the common ground of judgment on which we undoubtedly act, and to define it in such a form as will be intelligible to the public and a guide to them in their own appreciations, a task again of the very greatest difficulty, and, perhaps, not the work of one generation or of one man; yet I do not think that such a result will be indefinitely postponed. The consensus of competent judgment gains ground every year, and in time a method of criticism may be deduced from it, something far wider and more penetrating than the time-honoured system of the orders.

Meanwhile, and at a lower level, something might be done. It has been suggested that a series of plain pattern books for builders, giving working drawings of quite simple designs for doorways, windows and the like, would save us from the utter vulgarity of the great majority of modern buildings in this country. It is well known that on the greater number of such buildings no architect has been employed, but the public is not aware of this, and its vision (such as it is) is being constantly perverted by the worst possible models in front of it. This at least we might escape, and the builders of the last century did escape it, because they worked to an excellent set of accepted patterns. It would be a most useful and, I think, practicable task if a committee of architects of recognised competence could be formed to superintend the issue of some such series of pattern books. In the matter of building construction this has already been very well done in the South Kensington volumes, and it would not, I think, be difficult to supplement this on the side of design.

Lastly we come to what is, after all, the most important means of educating the public in architecture, our own work. Not only does an architect have a unique opportunity of educating the individual in his relations with his client, but each fresh work should be the most convincing embodiment of his own ideas of architecture, of which the effect, like that of a stone cast into the water, must spread in ever-widening circles far outside the centre of its first attack. We must set our own house in order before we can sweep and garnish that of the public; and thus the education of the public passes into the more intimate question of the education of ourselves; and at this point I may fairly leave it.

Perhaps at this moment the two worst faults of our architecture are, first, the total absence of any sense of style, that kind of design which snatches up any sort of detail and tacks it on to any kind of building, and of which there is abundant illustration in most of our new streets. This method we are all agreed on condemning, but there is another and rarer fault, and the more dangerous because it is the vice of a virtue, and this is a certain preciosity, what Pliny calls "Quædam artis libido," which runs out into frantic experiments after something new and altogether original. This latter habit of mind turns its back on tradition, or thinks it does, and resolutely eschews beauty, in its wild attempt at strength. Both of these faults can only be attacked by a more thorough and intelligent education of the student, and by a clearer appreciation in our own minds of the province and ideal of architecture.

In the first sentence of this paper I mentioned the extreme difficulty of this subject, and I have endeavoured to show that the state of public taste at present is due to deeply-seated causes, causes so difficult to reach that one might almost be tempted to despair of the future of architecture. Our best ground of hope is in the excellent work being done by individual architects, and in the agreement rather than disagreement of critical judgment which exists among ourselves. Such an agreement must in the long run influence public opinion. What we experts say in this generation will be matter of common knowledge and acceptance in the next. It should be our work, therefore, to clear the air of misconceptions, and to endeavour to build up again an æsthetic judgment which shall be independent of styles and fashions, because it rests on the essential facts and conditions which lie at the root of all good work in architecture. We cannot ourselves expect much immediate result, yet perhaps our children's children may enter into possession of the promised land.

DECORATIVE ART AT THE PARIS EXHIBITION.

AN excellent series of articles on decorative art at the Paris Exhibition, by Mr. Lewis F. Day, is appearing in the *Manchester Guardian*. In one which was published on Tuesday he writes:—

Let me briefly set down what struck me as the direction in which decorative art appears at Paris to be moving—confessing at the outset a workman's bias towards the work in which he himself is engaged, a bias in this case towards decoration generally, towards ornament in particular, and especially towards the arts which are allied with industry.

What strikes one with regard to decoration is that it has become almost entirely domestic. Church decoration, for all there is here to show, might be a thing of the past. Perhaps it is. And if the few specimens of ecclesiastical work in the French section and the poor show in the separate German building in the grounds are fair specimens of ecclesiastical taste, then it is quite time it were done with. Excepting always M. Lemeire's remarkable designs, it is mere shop work. Here and there in the Austrian and other sections we come upon an altar or a chapel, but there is nothing of any serious account. The energy of the decorator has been spent upon work of quite another kind, occasionally (as in the mosaic frieze under the colonnade of the Grand Palais) of a monumental character, occasionally (as in the paintings on the façade of the Palais d'Industrie) of a kind which, though in a sense pictorial, may also be defined as mural decoration; oftenest, however, in work less serious—domestic work, in fact, however little it may suggest domesticity.

There is a great display of interior decoration and furnishing, especially in the French section, some of it on the old lines, some of it on the newest. Indeed, modern effort takes one of two opposite directions—either it falls back into cowardly exercises in some traditional manner or it runs to rather daring innovation. Seldom has it occurred to anyone that there may be a happy mean between the two extremes. Tired of dull echoes of the periods of the Louis, you welcome some wild freak of decoration; irritated by the determination of the "new" art to be new at any price, you return in a more resigned mood to the tame copy of no matter what historic style. There may be less hope in it, less promise of something to come, but it is possible to live with it. Frankly, there is little in the way of new departure which arrives at giving satisfaction. There is much that is new, much that is clever, some that is fanciful, some that is even poetic, little which does not overshoot the mark of freshness or originality and fall into extravagance, if not into ugliness. Beauty, you are soon made aware, is no longer the ideal. What is beauty? Is there any such thing? The essential thing about form is that it should be strange. And so we have furniture not built on any theory of refined proportion or of constructive fitness, of usefulness or comfort, but deliberately fantastic. As often as not the lines of cabinet-work are more suggestive [of iron than of wood. Happily they are, as a rule, simple. The studious avoidance of accepted ornate and florid types of design leads, at all events, to simplicity of form. That, at least, is so much to the good.

In wall-decoration repeated pattern—which, it must be allowed, has been terribly misused—has gone out of favour. We find more often plain walls with only a painted frieze, or woven wall-hangings more or less reticently enriched with embroidery. There is quite a wealth of wall decoration in appliqué, embroidered in many cases by machine. A notable instance occurs in one of the Austrian rooms, where a very little appliqué and a very few long swirling lines of braiding are made to produce a quite striking wall decoration; long swirling lines are, of course, an integral part of the new ornament. Other interesting embroidery exhibited is characteristically peasant-work. The more delicate art of the needle is rather to seek at Paris. Pattern being for the moment out of favour, it is not surprising that the Exhibition does not contain much that is new or interesting in the way of wall-papers and the like. Nor in woven stuffs is there much to arrest attention. The French silks are triumphs of weaving, and there are some English ones we need not be ashamed of, but in design there is nothing that needs remark. Neither, so far as could be seen, is there anything remarkable in the way of printed cottons. It should be said, however, that with the rarest exceptions all such things are arranged with so absolute a lack of taste or judgment that none but a person bent on discovering what was there would give them more than a glance. One does not go to an exhibition to look at badly planned shop windows.

The great French tapestries, wonderful productions in their way, are almost invariably hot in colour and over-pictorial in design, comparing most unfavourably with Burne-Jones's designs in the British pavilion. The furniture tapestries are often very delicate and pretty in colour, but they might for all one can see be copies of last century work; the evidence of freshness or originality of design is infinitesimal. Carpets do not show to advantage. The preference of those who know for the work of Persian, Indian and Turkish looms—a preference inevitable under the circumstances—has had apparently a discouraging effect upon European manufacture. Now that merchants are sending out their instructions, if not their designs, to the Levant, and importing mongrel productions which have neither Eastern nor European character, there is hope perhaps for home industry. There are better carpets made to-day in Britain than appear to be shown at the Exhibition. Austria sends some fine big hangings (or are they carpets?) well designed and very delicate in tint; but perhaps the colour of them might with advantage be more "frank," as William Morris would have expressed it. Rude tapestry of the "Home Arts" order comes from Sweden and Norway, which last country sends some very interesting curtains, of rather a full pattern, the background of which consists of the bare warp threads, never crossed by the weaving.

In no artistic industry is there more evidence of activity than in pottery. England, it is true, is barely represented. Messrs. Pilkington, of Clifton Junction, have a show of tiles which, if I were not partly responsible for it, I would say was not unworthy of Lancashire. Messrs. Doulton, of Lambeth, have (probably by this time) a great show of Lambeth ware of various kinds. But France, Denmark, Germany, Holland, Hungary and other countries vie one with the other in their new endeavour, which is mainly in two or three directions—in the direction especially of hard-fired ware, of forms essentially plastic and clay-like, and of colours and glazes developed by the furnace and more or less accidental in character. The conservative national industry at Sèvres itself has been compelled, it would seem, by the recent success of the artist-potters competing with it to reconsider its ways, and has an exhibit of its work worth going to Paris to see—so fresh it is, so unlike what we have been accustomed to expect from it. In design, it should be added, it has not been above taking a lesson from English ornament.

The newest departure in porcelain is the crystalline glaze first produced at the Royal Copenhagen works, in which we have starry forms of natural ornament precisely, but for the charm of subtle colour in the crystals, like breath frozen on the window pane. Stoneware is no new thing, but it is put to new and most magnificent use: witness the great decorative works of Emile Maller, such as his reproduction of the famous Frieze of Lions in the Louvre. The great fountain from Sèvres is not a success—"It is a fool," was the verdict of a foreign potter, speaking his most idiomatic English—and there are other striking failures. On the other hand, grès is very successfully introduced in the façade of the Roumanian restaurant. One of the things forced upon your attention at Paris is the effort to make more or less constructive use of stoneware. The buildings in the Exhibition generally are quite an object-lesson in the decorative and architectural use of ceramics. Stoneware is put to more delicate use in the vases, flambés, flammés, splashed and otherwise emulative of Chinese effects, in which the French come out triumphantly. On a softer body effects of iridescent lustre are the rage, beautiful in proportion to their subtlety. The art of Maestro Giorgio lends itself, alas! to garishness, and much of the modern lustre is quite shocking in its coal-tar crudity. Even where, as in Holland, earthenware manufacture follows more or less on the lines of tradition, there is evidence of marked effort and vitality.

The glass industry, again, of various countries is alert. We have not merely the wonderful "crystal" of Bohemia and Hungary and the blown-glass of Venice, rather tiresomely fantastic, but the cunning cutting (cameo fashion) into glass of variously coloured strata, and the artful combination of two or more of these processes of work. At once the most daring and successful innovator is M. Gallé, of Nancy, whose work has a wonderfully molten look peculiarly characteristic of the furnace. Another artist in glass is Mr. Louis Tiffany, of New York, who has worked out a system of glass decoration very much his own, and arrives by it at new and very beautiful results; he has produced, too, some very remarkable panels of glass for wall decoration, lustred in such a gorgeous way as to need some skill in the use of it. Modern craftsmen have apparently not much to learn with regard to the production of iridescence upon glass, but it is only the very few who restrict themselves to the reticent and tasteful use of prismatic colour Mr. Louis Tiffany produces, by way of novelty, iridescence upon enamelled copper. The French show excellent workmanship in their enamel painting. More interesting is the cloisonné enamel of other countries. Sweden and Russia seem to have no difficulty whatever in enamelling in transparent colours upon a network of filigree—plique à jour, as it is called. From Hungary also comes very interesting work; one particular exhibitor revels in the most beautifully curdled colour, another applies enamel chiefly to goldsmith's work.

The artistic merit of the jewellery generally is by no means in proportion to its intrinsic value. Where gems of great price are used the jeweller depends upon them, and the art spent upon their setting is at the best frivolous. The more creditable goldsmith's work is often of the cheaper kind—such as the damascening on iron, which is the most artistic thing which comes from Spain, and the simpler and more modest but no less beautiful inlay in silver wire which comes from Bosnia. The Dutch silver is interesting, if only for its simplicity. The great French and American silversmiths, from whom one has learnt to expect fresh developments, do not do more than keep their place. But it is still to Paris that we must go to find men who can chase gold and silver so as to give value to the precious metals. Comparing their work with what is being done in England, one cannot but notice how far we are behind in the matter of technical skill. The men trying with us to do better things are artists who approach the subject from the outside, and have yet to become competent craftsmen. The best French work is done by men whe have learnt their trade, and can therefore express all that they have got to say. In pottery, in enamelling, in goldsmith's work it is the same. There the workman develops into the artist. Here the artist tries his hand at a craft—with the natural result. The descent proves to be by no means facile. The more natural progress is upwards, from craftsmanship to artistic achievement.

Stained-glass is not well represented. No single masterpiece of art is shown. There is a lull in competent production. The men who know their trade are resting on their reputation; the men who do not are making experiments, which will presently no doubt lead to something, but have not done so yet. There is promise in the fact that glassmakers generally, even in France, are producing material no longer flat in colour, and that artists are relying more and more upon a mosaic of such glass, and not painting it any more than they can help. The blacksmith is not in force at all, nor the leather worker; the inlayer, or worker in marquetry, is more to the front, revelling in strange mixtures of woods and using them on the whole with more pictorial than decorative intention. The woodcarver is most interesting when he is least pretentious—in the simple decoration, for example, of wooden buildings. In the Finnish pavilion there are some carved capitals and crestings which suggest the question whether certain strikingly new departures in modern English design owe something to Scandinavian sources, or whether the "sphere of British influence" has extended so far north.

That the movement towards the encouragement of the home arts is not confined to this country is very conspicuously shown at Paris—nowhere more plainly than in the Russian village, where there is quite a display of rural industry, exercised under the patronage of divers artists and high personages, who appear to think it rather a bright idea to decorate a buffet with pattern, carved, poker-worked and painted in imitation and in magnification of the ornament applied to gingerbread. This is popular art with a vengeance.

LONDON MEMORIALS.

A MEETING of the committee for the Survey of the Memorials of Greater London was held on the 21st inst. at 74 Cheyne Walk, Mr. Leonard Courtney, M.P., presiding.

The fourth report of the committee was presented. It stated that, with a view to prosecuting the work of the committee in registering and recording with drawings, photographs and other records whatever might be deemed to be of historic or æsthetic interest in Greater London, the area undertaken had been divided up among the active members of the committee, who filled up certain forms upon a definite classification. The forms were amplified with sketches, photographs, measured drawings, &c. Many of these were exhibited at the meeting. The work was not confined to buildings only, but embraced any object of local life or custom having a definite embodiment. The chief portion of the committee's historical work, as distinct from its work of watching, was the compilation of the register or survey of London buildings. The London County Council had recognised the work of the committee, and agreed, upon certain conditions, to print such of its records from time to time as went to the making of the body of the register. It was arranged that the work should be done in parishes, beginning in the eastern districts of London, the committee taking up a western district as soon as possible. The first volume, dealing with the parish of Bromley, was now printed and would shortly be issued to members. The second dealt with the parish of Bow. The third, it was hoped, would be an even more important one, dealing with the parish of Chelsea. The committee had already started forming its Chelsea collection, and a series of drawings of the houses on Cheyne Walk had been partly made. The committee appealed to all citizens of London for co-operation in the work and financial assistance in making good the deficit.

The report having been presented, the Bishop of London was unanimously elected president of the committee in succession to the late Lord Leighton.

Mr. C. R. Ashbee, on behalf of the committee, read a statement as to their work. He said that their aim was to stimulate the historic and social conscience of London. They believed that if such a register as was now offered in the case of Bromley were drawn up for every parish in London it would go far towards preventing the destruction of the historic and beautiful landmarks of London. A reference to the Bromley volume would show what might have been done in that parish. The beautiful conformation of the old High Street had been spoiled, its line disregarded and everything in it sacrificed to the immediate requirements of the moment. Where stood the picturesque seventeenth and eighteenth century houses with their tiled roofs and richly moulded timber cornices and canopies, now stood a grim and melancholy casual ward. Where was the stately house of the Adams's time was now the goods depôt of the London and Tilbury Railway. Where stood Tudor House in its garden was now the somewhat conventional open space, with a view of factory chimneys beyond, and where, next it, was the old palace of James I. was now a gaunt uninteresting Board school. The committee did not wish to imply that a good deal of this was not inevitable, but they pleaded that a good deal was unnecessary and could with proper direction or advice have been prevented. He read a list, made up from information that had been sent him, and by no means claimed that it was complete, of objects threatened or destroyed, in whole or part, in London during the last six years. Inside the City and county of London these included Stratford Place, the work of Robert Adam, destroyed in part; Haymarket Colonnades, one of the best-planned Late Georgian streets in London; Adam Street, Adelphi, one of the finest specimens of Adam's work, almost entirely destroyed; the Rolls Chapel, containing the monument of Dr. Young, the work of Torrigiano, and also the Mediæval chancel arch; City churches—the church of St. Michael, Wood Street, of ancient foundation, rebuilt by Wren after the Great Fire, and pulled down in 1897 under the Union of Benefices Act; St. Michael Bassishaw; St. George, Botolph Lane, condemned under the same Act; the old palace of Bromley; Tudor House, Bromley; Alfred Stevens's lions before the British Museum railings; the Embankment Garden of the Chelsea Hospital, in part; the old Bell Inn, the last galleried inn in London on the Middlesex side of the water; Church Row, Hampstead, in part; the interior of the church of St. Mary Woolnoth; old merchants' houses in the City, Nos. 10 and 11A Austinfriars and No. 4 Coleman Street; the seventeenth-century houses on the south side of Barnard's Inn; Clement's Inn; Hare Court, Temple, in part; Dick's Coffee House, No. 8 Fleet Street; Ashburnham House, Dover Street, now replaced by flats; Coleberne Court, Earl's Court; Bullingham House, off Church Street, Kensington; the fourteenth-century crypt of Laurence Pountney Hill, let by the Merchant Taylors' Company on building lease and destroyed; the last portion of the Blackfriars Monastery on the north side of Ireland Yard, destroyed this year; Bedford Square, many Adam interiors destroyed; Russell Square, the whole planning of the square spoiled by block buildings, and the façades of many of the houses spoiled; Fitzroy Square, the elevations spoiled and stonework painted over; Hanover Chapel, Regent Street; the Cock Tavern, Fleet Street; Harley House, Marylebone Road, with beautiful timbered garden and some of the finest planes in London; Emanuel Hospital, Westminster; Church Row, Aldgate, Cass's School, Aldgate; the Wardrobe, Stepney, destroyed by the London County Council in widening the thoroughfare; seventeenth-century merchants' houses, Bow; Mitre Square, Aldgate, with the remains of the Priory; Palestine Place, Bethnal Green, a group of eighteenth-century buildings; the Catherine Wheel Inn, Bishopsgate; the eighteenth-century rectory and boundary-wall, Bow; Sir Francis Drake's house, No. 35 Basinghall Street; and so on. This was followed by a list of objects and buildings destroyed outside the City and county, but within the survey; and a further list was read of things threatened during the last six years, these including Chelsea Hospital; Trinity Hospital, Mile End; St. Mary-le-Strand Church; St. Clement Danes Church; St. Mary's, Stratford-atte-Bow; the Inner Temple Gatehouse, together with 17 Fleet Street, the reputed Chancery of Cornwall, now saved by the action of the City and the London County Council; the Jewel Tower, Westminster; the church of St. Ethelburga, Bishopsgate; Lincoln's Inn Fields, the western side, with the Inigo Jones mansions; Christ's Hospital; Sir Joshua Reynolds's house in Leicester Square; Turner House, Chelsea, now saved; Thomas Carlyle's house in Cheyne Row, now saved mainly by the enterprise of Chelsea residents and American subscriptions; Golder's Hill Estate, Hampstead, since saved; Churchyard Bottom Wood, since saved; Latchmere Allotments, Battersea, &c. Examination showed that the responsibility or blame in these cases rested with such bodies, among others, as the London County Council, the London School Board, the Charity Commissioners, the Elder Brethren of the Trinity House, the Office of Works, and the Bedford Estate. The fact of its being possible to draw up within six years such a list was in itself a very serious indictment against the common sense and administrative capacity of the citizens of London. He did not suggest that the municipality should buy up every old house, and so forth; but he urged that there should be some means whereby the public should be first consulted when any question arose that affected the history and dignity of London. The proper body to supply this means would seem to be the London County Council, which had obtained the necessary statutory power. A committee ought to be formed to put itself in touch with all the various social agencies that were seeking to work in the direction of raising the standard of life in the community.

Lord Monkswell, in moving the adoption of the report, defended the London County Council's attitude towards buildings of historic or architectural value.

Lord Justice Rigby, in seconding the motion, hoped the committee would be able to carry their work very much further, and that through their instrumentality there would be in the course of a few years a tolerably adequate record of such places of interest and beauty as had still been preserved.

Mr. Laurence Gomme moved that the survey be now extended to the parish of Chelsea, where, he said, there was a most promising field for the survey.

Lord Balcarres, in seconding the proposal, said he thought there was an unnecessary vein of pessimism running through Mr. Ashbee's address. Mr. Ashbee had read a long list of the places destroyed during the last six years and of the places threatened, but would not a list of the places destroyed in the previous period of six years be very much more serious? In the earlier of those two periods, not only threats, but cases of actual destruction, went without any protest at all. The very fact that they spoke of places being threatened was one of the most promising proofs of the progress of the work in which Mr. Ashbee was engaged. Some buildings they knew to be doomed. Newgate Gaol, in its way one of the finest buildings in London, was doomed, and Christ's Hospital, of course, would ultimately go too. But public spirit was awakening on the subject, and he trusted that in a few years' time their progress would be such that protests would be more effective. He believed the London County Council was a tremendous agency for good in this respect.

Mr. Ashbee said, in reply, that he did not feel himself a pessimist. He recognised in such achievements as the defeat of the Westminster improvement scheme, that much had been accomplished. He appealed to the artists and other residents of Chelsea for help in the work of the committee, and to amateur photographers for the assistance of their cameras, and he hoped also for an increase of the honorary membership and subscriptions. The committee was ready to supply a list of the things of interest in Chelsea as far as they knew of them at present.

The motions were carried, as was also a resolution of thanks to Mr. Courtney for presiding, moved by Sir Colin Scott-Moncrieff.

The Chairman, in acknowledging the vote, said on such occasions as the present he had always felt himself in the presence of a conflict between the past and the present. He was always a combatant, and he must say something against the current feeling of the meeting. There was a real peril if we insisted on keeping up so much that had been handed down to us that the new life was encumbered and burdened by what it received from the old. The struggle between, on the one hand, the desire to preserve what was often in itself beautiful and had become more beautiful with age, and, on the other, the possession of the new and fresh life, would, he believed, result in some form of beauty such as they often saw deduced from a conflict of opposing or partly opposing forces. Reference had been made more than once by the speakers to the London County Council. Ten years ago, when the County Council was just starting its existence, everyone would have agreed that a more utilitarian and unpromising body could not have existed. But the County Council defied the prophets, and had become the patron and supporter of that committee, and was going to publish its work. It was not always possible to preserve the buildings of the past, but they would always, he hoped, do something to preserve its records. Lord Balcarres had said quite truly that they ought not to be despondent about the present. We were not so bad compared with our predecessors. We did not pull down City churches with the same recklessness. We discriminated. The House of Commons, a body not quickly penetrated with new ideas, was possessed of the same feelings. The Westminster scheme was defeated with not much difficulty. Thirty or forty years ago the scheme would probably have gone through. He congratulated the committee on its adoption of the word survey, and in conclusion said he suspected that at the root of their aims lay the desire not only to preserve or record the survivals of the past, but to develop in themselves a sense of beauty which should secure that when old things were superseded something beautiful should take their place, worthy to be substituted for that which was bound to go, and to be passed down to those who came after them.

THE THORESBY SOCIETY.

On the 23rd inst. a party of fifty members of the Thoresby Society visited Rievaulx Abbey and Helmsley Castle. They arrived at the abbey about four o'clock, where Mr. Sydney Kitson, as guide, gave a brief history of the ruins. The first Cistercian house in Yorkshire, the abbey, was founded in 1131 by Walter Espec, being colonised direct from Clairvaux. The first buildings in stone were raised soon after 1143. The plan, no doubt, resembled that of Kirkstall, an aisleless presbytery of two bays, flanked by three chapels on each side, opening out of the transepts. The only existing remains are the ends and west sides of the latter and part of the south wall of the nave. The architecture was of the plainest possible type. The nave probably remained Norman to the end. There was a west window of many lights (probably Perpendicular). At the west end was a Galilee, as at Fountains. About 1193-1203 a further storey was added to the transepts, and the east chapels of the north transepts were then built. The east chapels of the south transept were completed last. The choir and presbytery each filled two bays and a half; the bay behind the high altar was open for processions, and against the east wall was a row of five small chapels. The monastic buildings sadly need clearing. The frater is of great size, and built out over a vaulted under-croft. West of it was, as usual, the kitchen, and east the warming-house. The chapter-house had five aisles and an apse. Over it was the monks' dorter, and the stair in the gable leading from it to the church is still traceable. The site of the gatehouse may still be seen. The stone used in the buildings is of two kinds, and came from separate quarries. It was brought to the abbey by "guteriae," or canals, filled from the Rye, some remains of which are still visible. At the Dissolution, in 1539, the site and buildings passed to Thomas, Earl of Rutland. From a survey then made, and now preserved at Belvoir, much valuable information has been gained.

After a drive through Duncombe Park, the seat of the Earl of Feversham, the party had tea at the Royal Oak Hotel, Helmsley, and later inspected Helmsley Castle. It stands near the river upon a large mound, strengthened with earthworks of uncertain date. There is a double moat. The keep was originally built about 1200 by Robert de Ros, who held the lordship from 1184 to 1226. The existing portion is 96 feet high, and contains three storeys. During the Civil War it was held for the king, besieged by Fairfax, and surrendered on honourable terms. It was then blown up by order of Parliament. The main entrance is by a gatehouse flanked by circular towers, and is mainly Late Norman or Early English; but the portcullis groove, with all before it, is of the fourteenth century. The range of buildings west of the inner court is mainly Elizabethan, and was probably built by Edward, third Earl of Rutland. It was the favourite residence of the second Duke of Buckingham, whose trustees sold it to Sir Chas. Duncombe, ancestor of the present Lord Feversham.

At tea the Lord Mayor of Leeds (Ald. Gordon), who presided, moved a vote of thanks to Lord Feversham for permitting them to visit his grounds, and to Mr. W. H. Witherby and Mr. Sydney Kitson for having arranged such an instructive excursion. The resolution was seconded by Ald. Tetley, Mr. McLauchlan replying on behalf of the Earl of Feversham, who was in town. The third and last excursion of the Society this year is to Marsden Moor and Cowthorpe Church. It will take place on the last Saturday in July.

CUMBERLAND AND WESTMORELAND ARCHÆOLOGICAL SOCIETY.

The annual meeting of this Society was held on the 20th inst. in Carlisle, where the members assembled at Tullie House, over which they were conducted by Mr. Scott, chairman of the Tullie House committee, and Mr. Sparke, the librarian, who read a paper descriptive of the institution and the objects it contained in its museum. The cathedral was then visited, and tea was served in the fratry, where the meeting was held and papers were read by the newly-elected president, the Bishop of Barrow-in-Furness, Dr. Barnes and others. On the following day an excursion was made to Holme Cultram district. The members travelled by the 9.15 train in the morning to Abbey Town, and drove back to Carlisle in a couple of char-à-bancs and a waggonette. On arrival at Abbey Town the party was met by the Rev. A. F. Sheppard, the rector, and his curate, the Rev. G. E. Gilbanks, and at once proceeded to the abbey, where Mr. Sheppard described the more interesting features of the old building; whilst Mr. Gilbanks, who has given the public the benefit of his researches in a recently published volume, took a party round the exterior of the edifice and pointed out where the cloisters and other parts of the old abbey were likely to have been situated. At the abbey an hour was pleasantly spent, as the octogenarian rector discoursed *con amore* on the archæological features of the old building, with which his twenty-five years' association as parish clergyman have familiarised him. At eleven o'clock the conveyances were ready for the drive through the Holme, the programme for which included calls at Raby Cote, Newton Arlosh and Kirkbride churches, the Roman fort and castle at Drumburgh, and Burgh Church. Fortunately for the success of the outing the weather was delightfully fine, and members of the Society who were making a first acquaintance with the district were charmed with the beautiful country through which they passed, and especially with the view of the Scotch hills across the Solway, which were seen to much advantage.

On arrival at Raby Cote (now a farmhouse about a couple of miles from the abbey), one of the four granges established by the monastery in the twelfth century and the old seat of the Chambers family, the party was addressed by Mr. Francis Grainger, of Southerfield, who gave an interesting history of the Chambers family. Although members of this family played prominent parts in the troublous times of Elizabeth and the Stuart kings, Mr. Grainger stated that the name of the most eminent member of the family, John Chambers, did not appear in any county history, and he was therefore glad to have an opportunity of doing some little justice to the man and his family. As the original documents relating to the affairs of the parish in the sixteenth and seventeenth centuries are now in Mr. Grainger's custody, and were exhibited at the abbey for the benefit of any person interested in ancient MSS., Mr. Grainger was thus well qualified to speak upon the subject, and we understand that he has been requested, and has agreed, to let the Society have the benefit of his knowledge in a paper which he will prepare for publication in the Transactions. For 200 years, at the period named, Mr. Grainger said the Chambers were the leaders of the yeomen in the Holme, and seemed to be on the line which divided the yeomen and the county families. Mr. John Chambers, whom he had mentioned as the most eminent member of the family did, in fact, marry into a county family, but that did not prevent him from selling his salt, malt, barley, wheat, &c., at Ireby, Cockermouth and Carlisle. He frequently went up to London on the business of the parish, taking eight or nine days for the journey, the expense for horse and man on each journey being 2*l.*, whilst a fortnight in London cost 2*l.* 10*s*, so that he did the thing cheaply for the parish. After the dissolution of the monasteries trouble arose between the farmers and the tithe-owners. The tenants banded together and fought the tithe-owners, and in doing so came in conflict with the clergy, with the result that Thomas Chambers was excommunicated, whilst a brother was put in the Fleet till the money was paid. The Chambers again placed themselves at the head of the tenants in order to confirm their customary lands into copyholds. The struggle lasted from 1561 to 1607, when the copyholds were confirmed by Act of Parliament. The costs in these suits and the bridges came to about 1,500*l*, an immense sum 300 years ago. In all these matters John Chambers was the most prominent man. In preserving the wood at Wedholme Flow he seemed to labour incessantly for the good of his fellows, and for fifty years was the leading spirit among the sixteen men to whom the government of the parish was committed, first under the Lord Warden and then under the Governors of Carlisle Castle. During his lifetime he added to the family estates, and when Carlisle was besieged sent provisions to the garrison. In the middle of the eighteenth century, however, the family fell upon evil days, and the estate passed into other hands. Attention was directed to several sculptured and other stones in the walls of the house, which had been brought from the abbey, and Mr. Grainger remarked that if the late Chancellor Ferguson's contention was correct, viz. that the letters round the house were part of the chancel, then the date could not be earlier than 1600-05. If, however, the stones formed part of the chapter-house or cloisters, the house might have been built subsequent to 1561. At the close Mr. Grainger was thanked for his interesting address, on the motion of the president (the Bishop of Barrow).

From Raby Cote the party were driven to Newton Arlosh, where the church was visited. Mr. T. Hesketh Hodgson read the late Mr. J. A. Cory's description of the building from the second volume of the Transactions, and the vicar of the parish, the Rev. J. Mitchell, favoured the company with further information regarding the structure. It would appear that what is now called the new church, and goes back to 1845, was added to the north side of the old one, with the result that the so-called east window is really in the north wall, so that the vicar of the parish, as one authority expressed it, is the most rubrically correct clergyman in the diocese. The original east window in the old portion of the church is only 11 inches wide, and when the church was restored and enlarged the seats were turned round to face the chancel, which is now the northern part of the building. The next stage of the journey was to Kirkbride, where the restored church was described by the Rev. W. R. Hoppen, the rector of the parish, who directed attention to some of its more interesting features. A few more miles of pleasant driving brought the Society to the Roman fort at Drumburgh, where Mr. T. H. Hodgson described the excavations which were carried out last August. As a result of the excavations the conclusion had been come to that the fort was really a mile castle on a larger scale than usual, but it was as uncertain as ever whether the Roman wall skirted the Marsh to the south or the north. Whether it crossed the Marsh or not they could not say. It might have sunk in the soft soil, but, at any rate, no trace of it could be found. An account of the excavations had been written by Mr. Haverfield, and his paper will be published in the next volume of the Transactions. After time had been allowed for refreshments the Society assembled at Drumburgh Castle, which was probably built with stones taken from the fort. The party were shown over the rooms, and subsequently Mr. T. H. Hodgson read the description of the building which is given in Lysons's "History of Cumberland." According to this authority the castle as it now appears seems to have been rebuilt in the reign of Henry VIII. by Thomas Lord Dacre. The castle is now the property of Lord Lonsdale, having come into the possession of the Lowther family towards the close of the seventeenth century, when Mr. John Aglionby conveyed it to Sir John Lowther in exchange for Nunnery. An enjoyable drive of between four and five miles more brought the Society to the last place in the day's programme—the fortified church at Burgh, where Mr. D. Burns read an interesting paper. He said he had come to the conclusion that the building was really a fortified church, and not a fortress and a church built close together. He was further of opinion that the tower and the nave were the oldest part, going back to the eleventh century, that the chancel and east tower were added later and the north aisle in the thirteenth century. If these conclusions were correct Burgh Church was the oldest fortified church in the county, and from certain features of it which had never been explained, he hazarded the theory that it was originally a heathen temple. He added that other churches, notably Kirkbride, possessed similar features, from which he was inclined to draw the same conclusion. Mr. Burns was thanked for his paper, and after tea at the Lowther Arms the last stage of the journey was undertaken and Carlisle reached about six o'clock, when the members took leave of each other after having enjoyed a pleasant outing.

BIRMINGHAM ARCHÆOLOGICAL SOCIETY.

THE second excursion of the Society for this season was held on the 20th inst. Chipping Campden was the first place visited. This most interesting town possesses a church which is a fine example of Perpendicular architecture. A curious Early English corbel inserted in the wall of the vestry would seem to point to a church of much earlier date, but there are no other traces. The structure has been restored with some care, but with an unfortunate general effect of neatness and newness. The brasses to the memory of wool merchants, for whose trade the now quiet town was at one time a great emporium, are very famous. Scarcely less remarkable in a different fashion are the stone monuments to the families of Smith Noel and Hicks. Adjoining the church gates are the small remains of the manor house erected by Sir Baptist Hicks. Of the house itself little but the fragment of a graceful arch is left, but the entrance remains almost intact, though now built up and useless. At the vicarage the visitors were shown, by the courtesy of the Rev. Thomas Carrington, the finely embroidered cope and unique set of altar drapery which remain at Campden from pre-Reformation times. These are priceless relics for which one cannot but covet the security of preservation in some national collection, reverently as they are here kept. From Campden the party drove to Blockley, a most attractive village, the church of which is a perfect museum of every style of architecture from Norman to the Churchwardenesque Gothic of the later eighteenth century. Some of the details of this singular church fairly puzzled the experts present, and must for the present remain enigmas. Time failed for any inspection of the church of Bourton-on-the-Hill, but the very fine tithe-barn, now in the grounds of Bourton House, was carefully examined. At Moreton-in-Marsh the church is absolutely modern. Some relics of the former edifice were visited, now built up in garden walls or otherwise scattered, and the valuable church plate and registers were also courteously thrown open to inspection. The visitors were much indebted to Mr. Francis B. Andrews, A.R.I.B.A., for his careful explanation of the architectural features of all the buildings examined.

The Scarborough Corporation are seeking powers to construct a new marine drive, with a sea-wall, to make slaughter-houses and build a new swimming-bath. There is no opposition to the Bill.

TESSERÆ.

Vanbrugh's Haymarket Theatre.

VANBRUGH proceeded with the double duty of writing plays for the stage and planning palaces for the nobility. Of his earlier buildings may be named Eastbury, in Dorsetshire, which was pulled down by Earl Temple; King's Weston, near Bristol, for the Hon. Edward Southwell; Easton-Neston, in Northamptonshire; Mr. Duncombe's, in Yorkshire; the Opera House, London; Oulton Hall, Cheshire, and Seaton Delaval, in Northumberland. Though none of these structures deserve to be named with Castle Howard, yet they exhibit, amid some faults, many of the picturesque beauties of his style. It has been justly remarked by Dallaway that he had the art of grouping his chimneys till they resembled pinnacles, or of connecting them into an arcade, by which the massiveness of the building was much relieved. He was indeed a great master of perspective, and nothing can be finer than the summits of his houses—he always raises a central point of attraction and groups pinnacles, peaks, towers, domes and pavilions round it, uniting them into a splendid whole, regarding little the rules of Classic art, but obeying those of poetic composition. Combining his taste for architecture and his skill in dramatic composition, he formed the project of building a stately theatre in the Haymarket; and such was the popularity which he enjoyed that at his instigation thirty persons of quality subscribed to aid him 100*l*. each. The theatre was built, and under Vanbrugh and Congreve for directors was opened by Betterton in 1706. That nothing might be wanting to secure popularity to this undertaking a Whig lady of rank and beauty was induced to lay the first stone, and the two greatest comic writers of the age undertook to feed the stage. But Vanbrugh wrote too fast and Congreve too slow; the pieces were ill-digested or ill-timed; the public had expected more from such a co-partnership than even their genius could perform and expressed disappointment. Betterton himself, however, imputed a double portion of the blame to Vanbrugh; his pieces for the Haymarket showed little, in the great actor's opinion, of the ready wit and gladsome humour of his earlier compositions, and what was worse, in his love of fine architecture he had built a house where the audience could not hear the actors; the words were swallowed up by a spacious dome, beautiful to behold, but which robbed the mind to gratify the eye.

Filippo Brunelleschi.

The most glorious homage the famous cupola of the church of Santa Maria del Fiore, the Duomo of Florence, has received is doubtless that rendered by Michel Angelo, who marked out himself the place for his own tomb in the church of Santa Croce in such a manner that, when the doors were opened, one could see from thence the daring monument which his lofty independent genius had initiated. History has handed down Brunelleschi's discourse which he delivered in one of the conferences that preceded the construction of the cupola of the Duomo. It would be difficult to speak with greater modesty and address, to explain more clearly the difficulties of the work, or to throw more embarrassments in the way of one's competitors. One feels that Brunelleschi, the architect, sculptor, painter, goldsmith, clockmaker, geometrician, was also an orator. Brunelleschi applied himself to the most abstruse questions of philosophy; he frequented the conferences where they were discussed, and was considered at Florence as one of the most dangerous antagonists in that kind of argument. Dante was as his daily food, and he commonly supported his conclusions with some of that poet's verses. He, moreover, appears to have been facetious and fond of pleasure; he was the principal actor in a pretty novel, "Grasso Legnajuolo," composed about 1450, by an author now unknown. From the researches of Mazzuchelli and Bandini, Brunelleschi has been, conjointly with Domenico da Prato, recognised as the author of the romantic poem of "Geta e Berria." Unfortunately he did not exhibit greater tact in his harangue before the authorities of the Duomo than in his conduct throughout the consultations, which were attended by the most famous architects of Europe, whose presence had been solicited by the merchants of Florence from the sovereigns of France, England and Germany. At last, after unheard-of vexations and a rigorous captivity, he obtained the sole direction of the works. Brunelleschi in person directed every workman and examined the quality of the materials. Day after day he invented new machines and shorter expedients, and when the cupola was complete, except the exterior of the drum and lantern, he died on the scene of his exertions.

Renaissance Detail.

The architects of the Renaissance occupied themselves more with form than with construction, and rarely set themselves constructive problems of great difficulty. Although the new architecture began with the colossal dome of the cathedral of Florence, and culminated in the stupendous church of St. Peter at Rome, it was pre-eminently an architecture of palaces and villas, of façades and of decorative display. Constructive difficulties were reduced to their lowest terms, and the constructive framework was concealed, not emphasised, by the decorative apparel of the design. Among the masterpieces of the early Renaissance are many buildings of small dimensions, such as gates, chapels, tombs and fountains. In these the individual fancy had full sway, and produced surprising results by the beauty of enriched mouldings, of carved friezes with infant genii, wreaths of fruit, griffins, masks and scrolls; by pilasters covered with arabesques as delicate in modelling as if wrought in silver; by inlays of marble, panels of glazed terra-cotta, marvellously carved doors, fine stucco-work in relief, capitals and cornices of wonderful richness and variety. The Roman orders appeared only in free imitations, with panelled and carved pilasters for the most part instead of columns, and capitals of fanciful design recalling remotely the Corinthian by their volutes and leaves. Instead of the low-pitched Classic pediment, there appears frequently an arched cornice enclosing a sculptured lunette. Doors and windows were enclosed in richly carved frames, sometimes arched and sometimes square. Façades were flat and unbroken, depending mainly for effect upon the distribution and adornment of the openings, and the design of doorways, courtyards and cornices. Internally vaults and flat ceilings of wood and plaster were about equally common, the barrel vault and dome occurring far more frequently than the groined vault. Many of the ceilings of this period are of remarkable richness and beauty.

GENERAL.

Professor Wilhelm Dörpfeld, Ph.D., director of the German Archæological Institute at Athens, has received the degree of D.C.L, *honoris causa*, from the University of Oxford.

Additional Prizes have been awarded in the Art Department of the Paris Exhibition to English artists. Among the gold medallists are Mr. E. J. Gregory, Mr. George Clausen, Mr. J. Brett and Mr. J. H. Lorrimer. Mr. Seymour Haden has a medal of honour in engraving, and Mr. Short and Mr. Nicholson first-class medals.

A Statue of Mr. Gladstone was subscribed for some years ago by the students of the University of Athens, and was there executed. Preliminary works have begun in the University Square at Athens for its erection.

The Late Marquis of Lothian has expressed the wish in his will that the "Gomm Collection" of pictures in his London house should be sold, if possible, and that in the first place the Trustees of the National Gallery should have the option of purchase if they would offer a satisfactory price.

M. Pascal d'Amelio, the author of the well known work on the mural painting of Pompeii, has just published a supplement on the recently-discovered house of the Vetii near the ancient city.

A Conference of architects will be held in Sydney some time in September if the various societies can agree on dates.

The First section of a Sailors' Home on a site at Chatham given by the War Department is about to be erected. A tender at over 5,000*l*. was accepted. The proposed building will have a frontage of 80 feet and will be 50 feet in height. The cost will be defrayed by public subscription, with the aid of grants from the Admiralty.

M. C. Enlart has obtained the first medal of the Academy of Inscriptions for his work on Gothic and Renaissance art in Cyprus.

The Vestry of St. Martin-in-the-Fields have appointed a committee to urge on the Government, the London County Council, both Houses of Parliament, public bodies adjacent to the National Gallery and the trustees of that institution the imperative necessity for the isolation of the Gallery, in view of the recent conflagration and the dangers of fire occurring in the adjacent premises.

A Grant of 1,000*l*. for the building of the new church of St. Mark, Plumstead, has been given by the Incorporated Society for Promoting the Enlargement, Building and Repairing of Churches and Chapels.

Lord Leighton's studio is to be used for concerts of chamber music. During the nine weeks that the Leighton House has been open to the public there have been between 3,000 and 4,000 visitors.

The fine old Church of Cold Overton, Leicestershire, has been struck by lightning and the spire completely destroyed.

The Duke of Northumberland has intimated to the Northumberland County Council his willingness to build and adequately maintain at his own cost, with such assistance as may be derived from the Science and Art Department and County Council grants, a secondary day school for boys at Alnwick, on a site of 12 acres, plans for which, at an estimated cost of 10,000*l*., have already been prepared.

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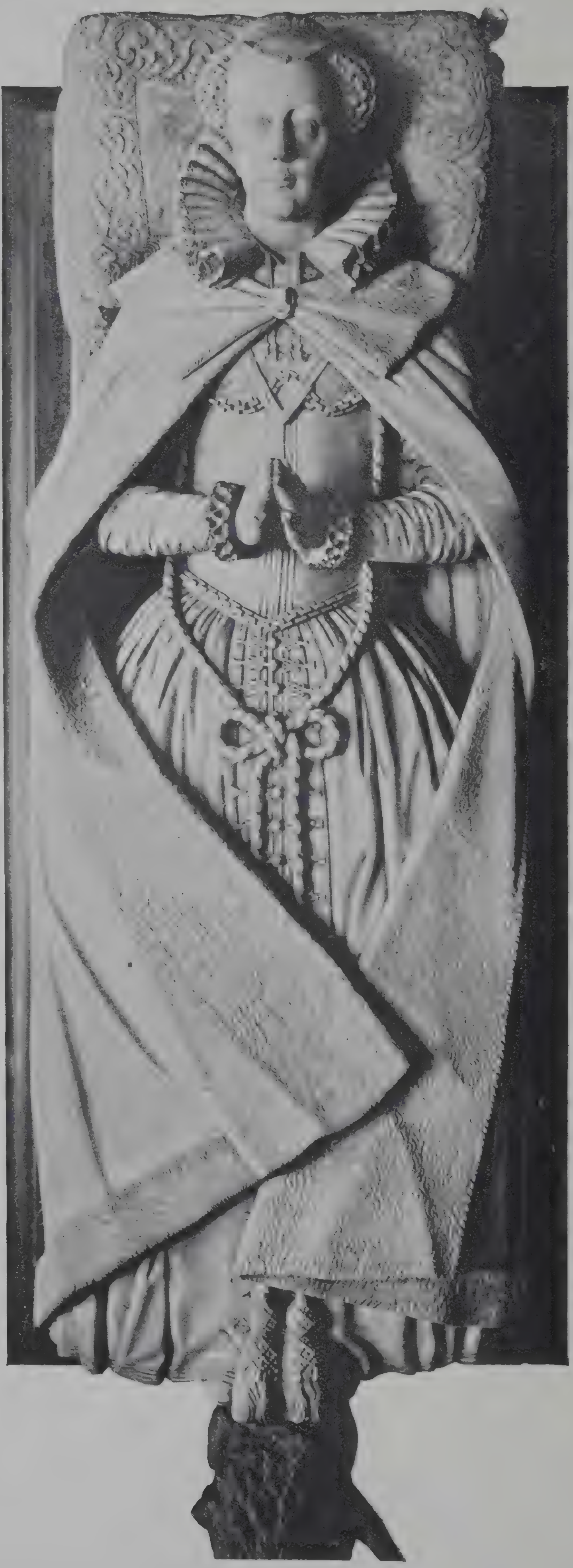

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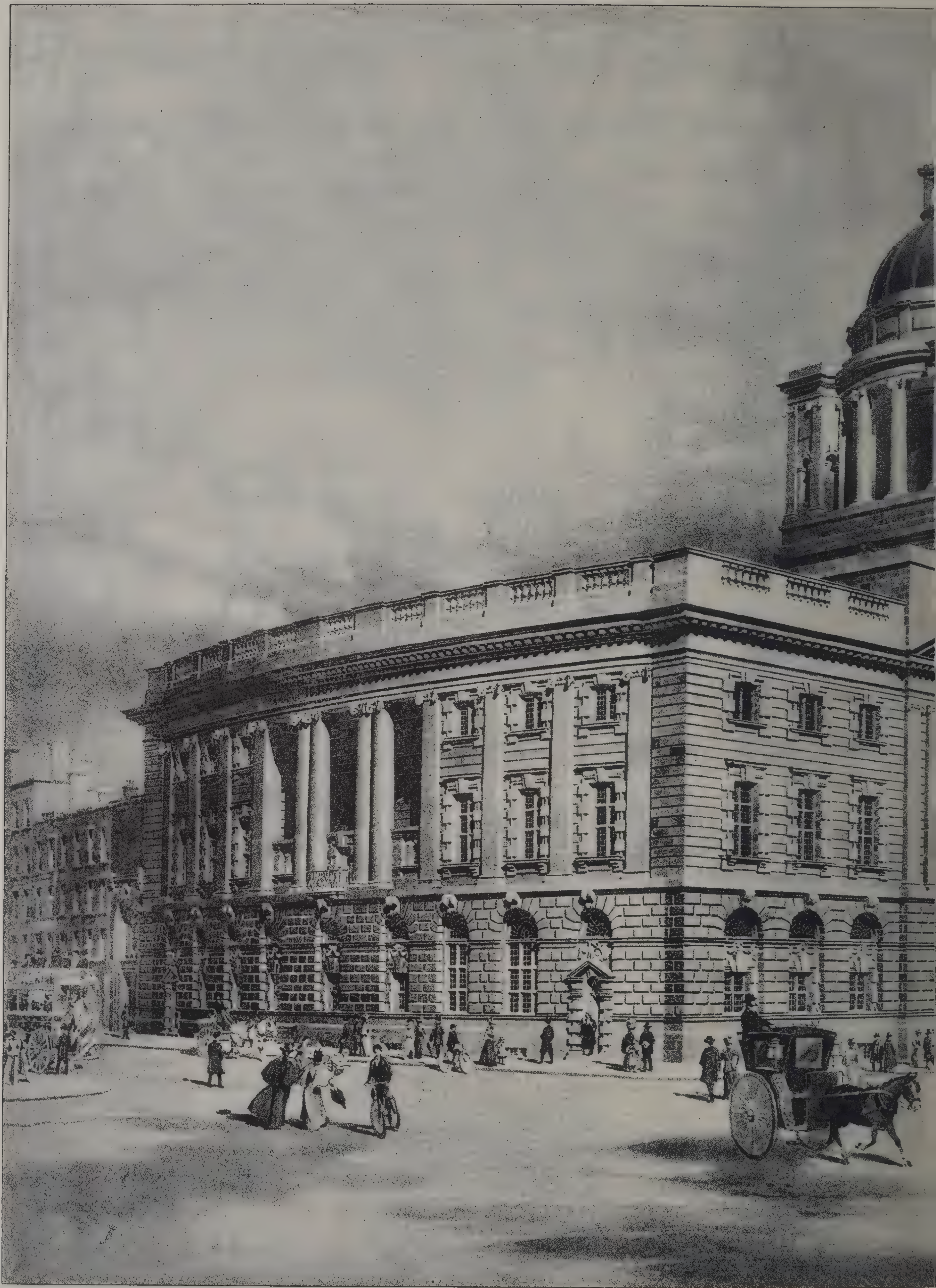

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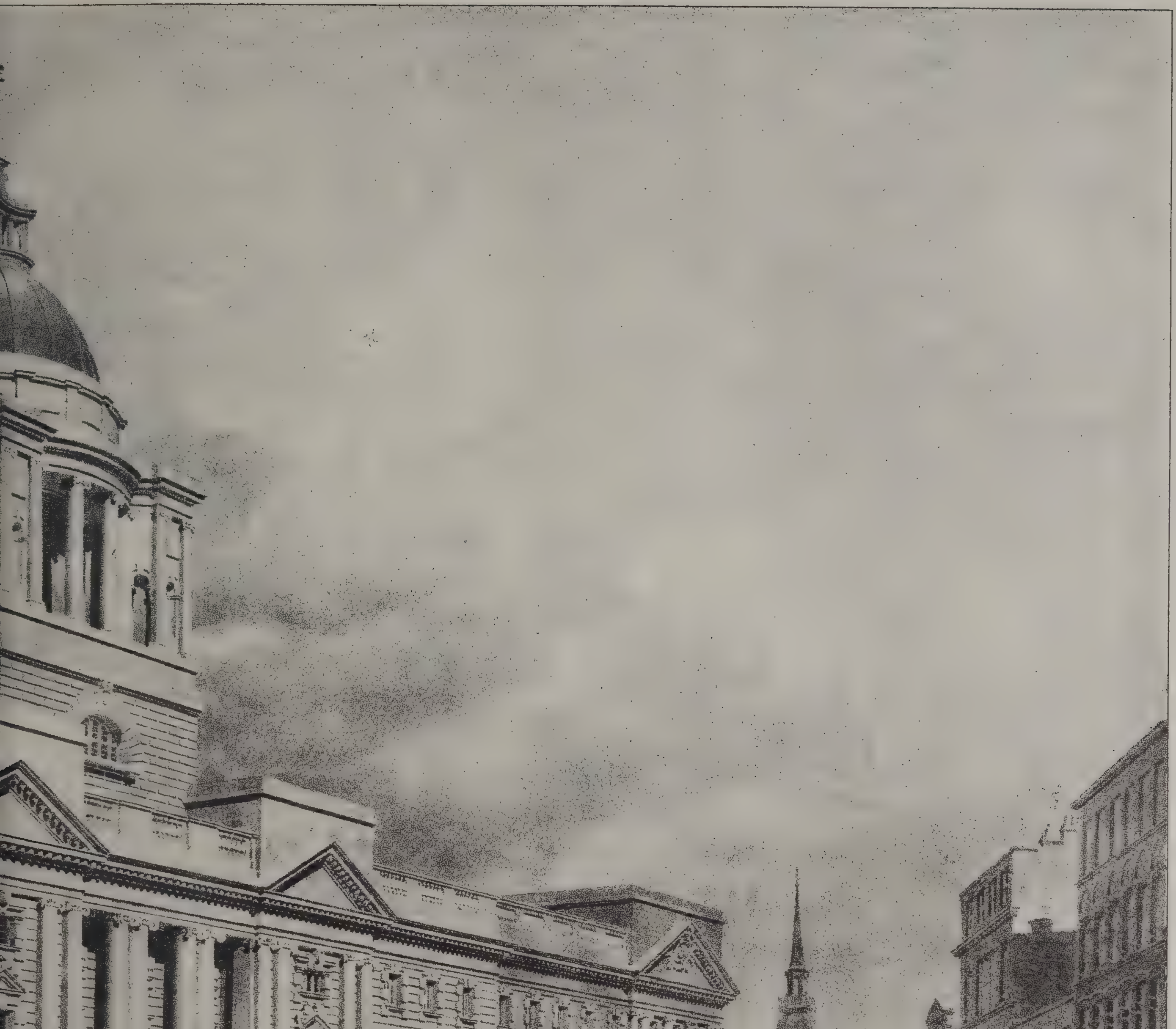

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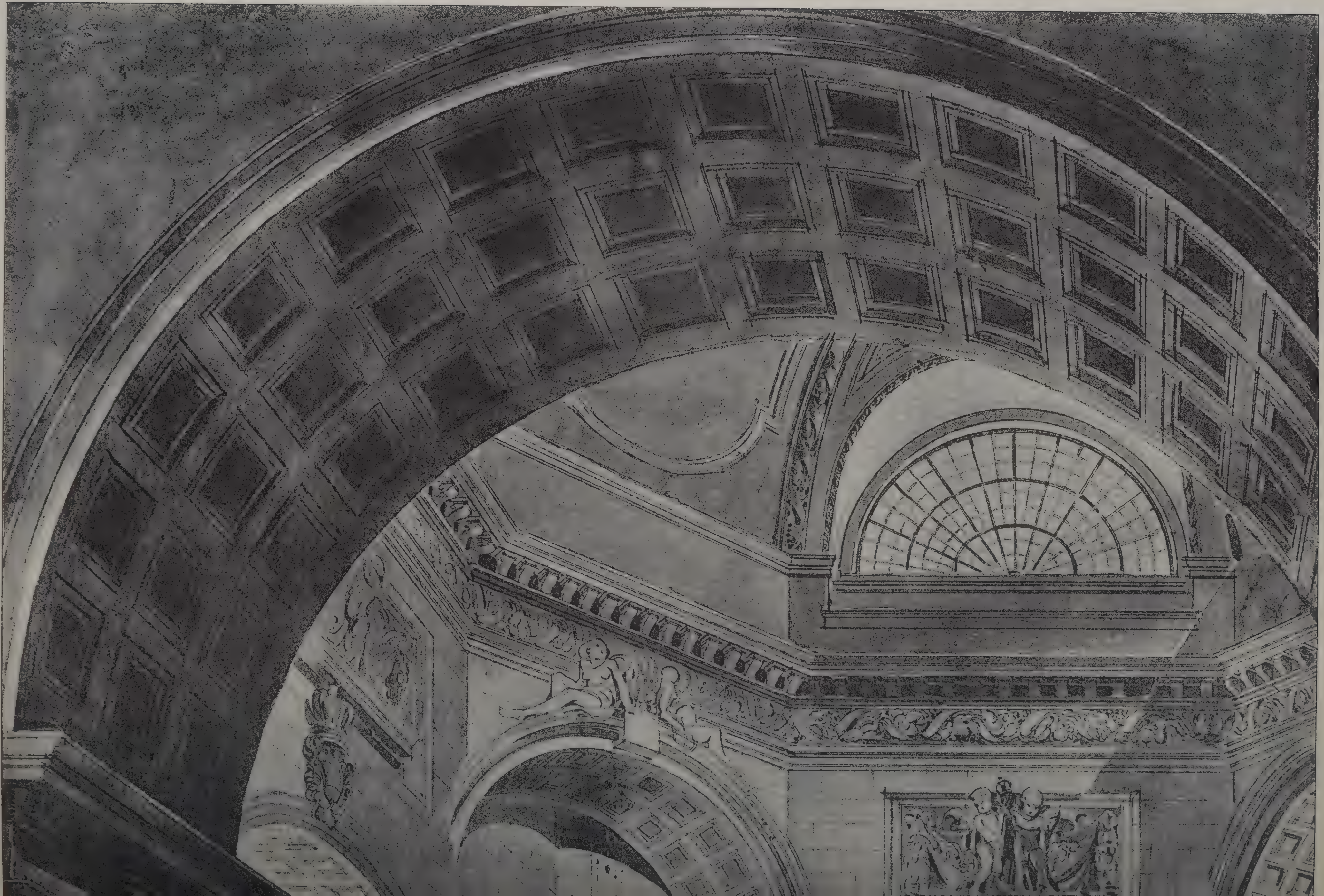

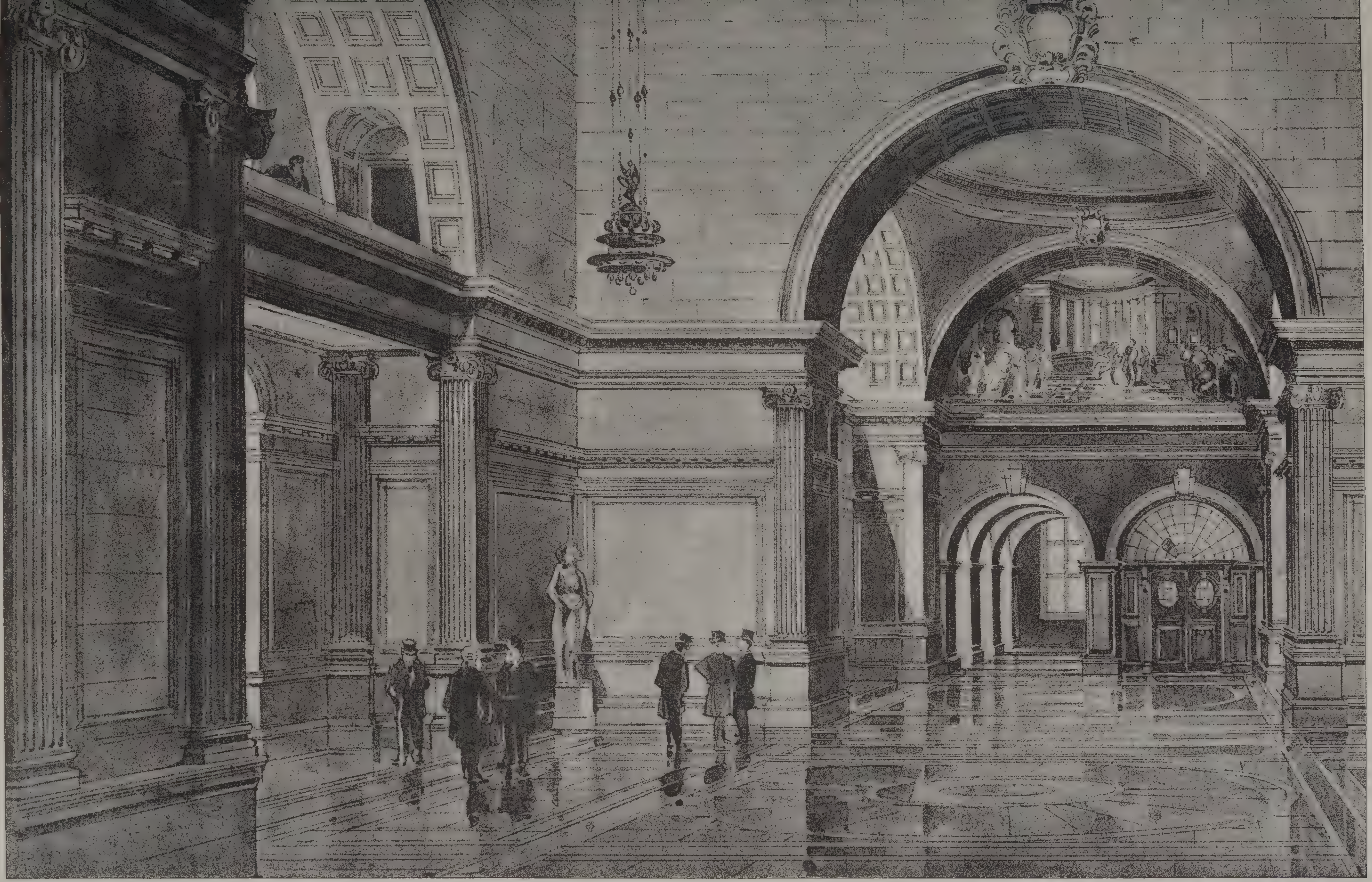

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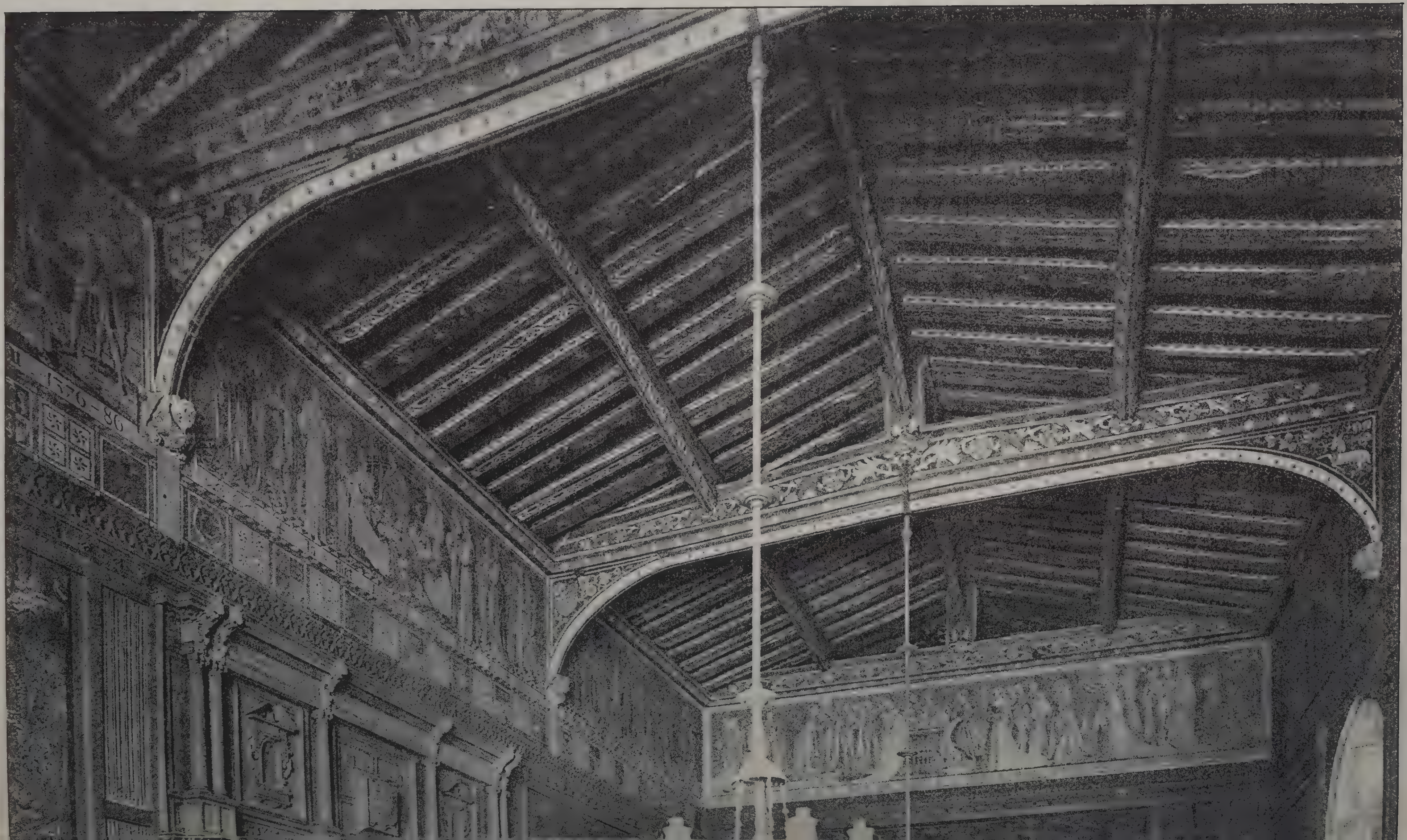
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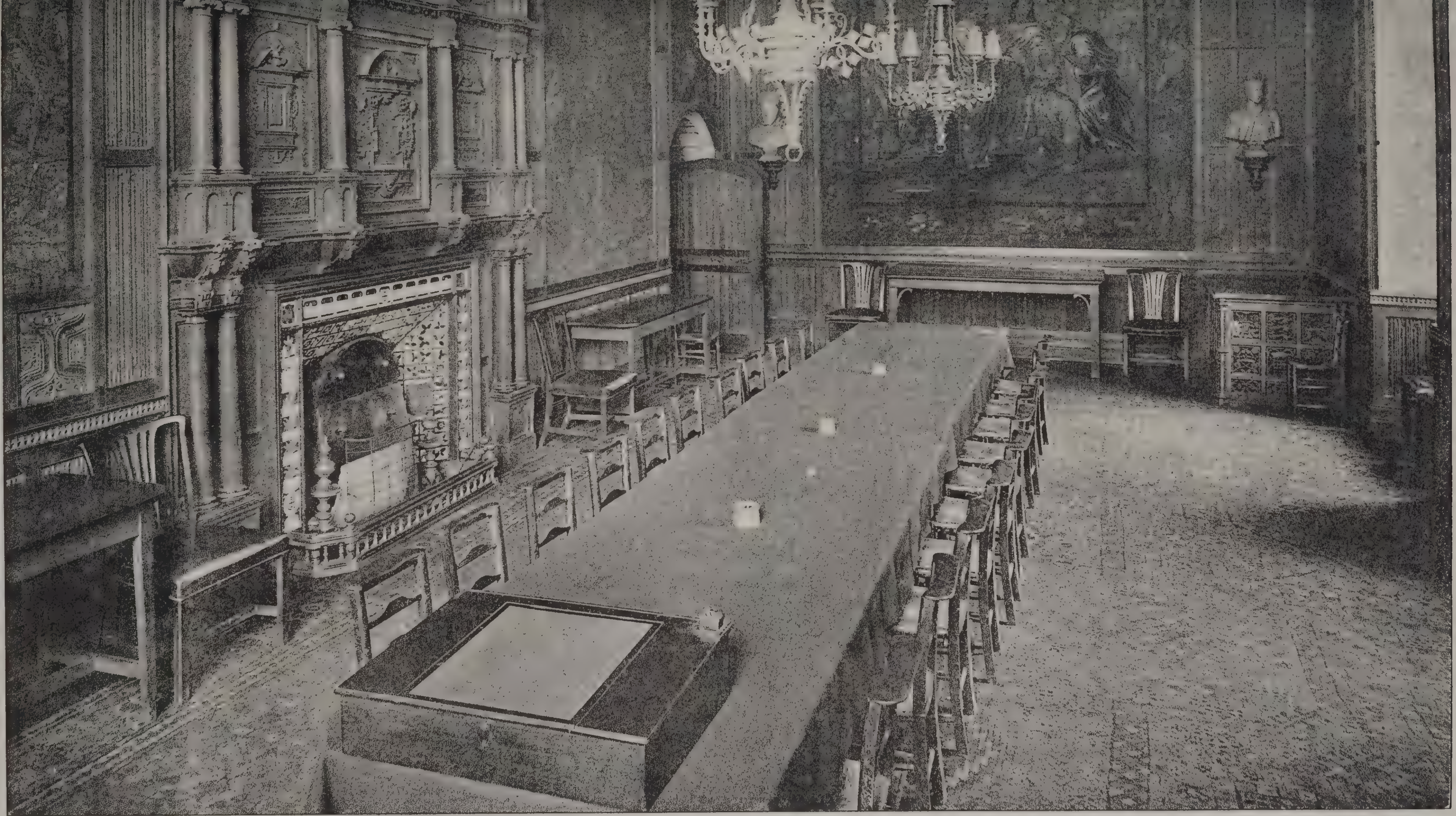

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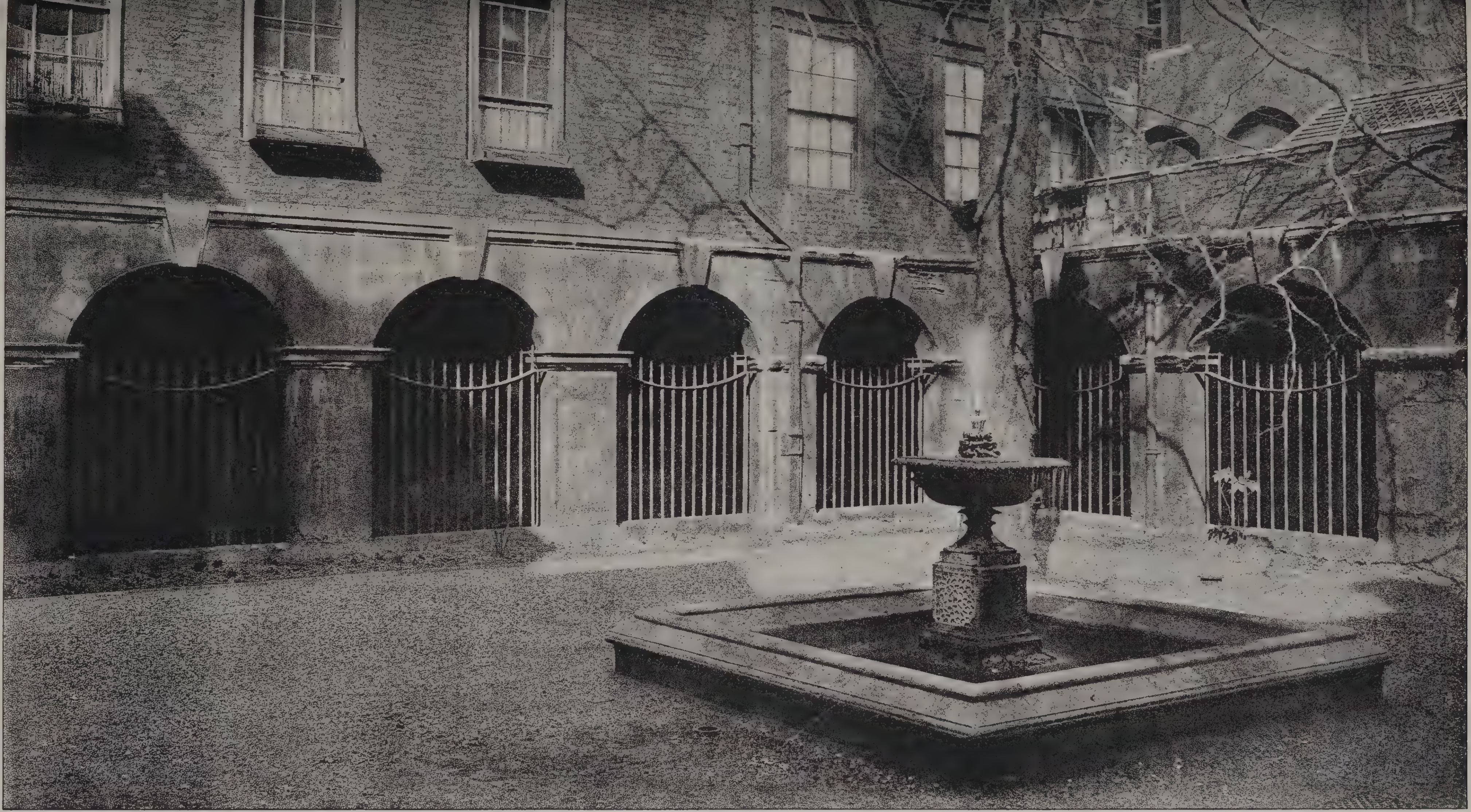

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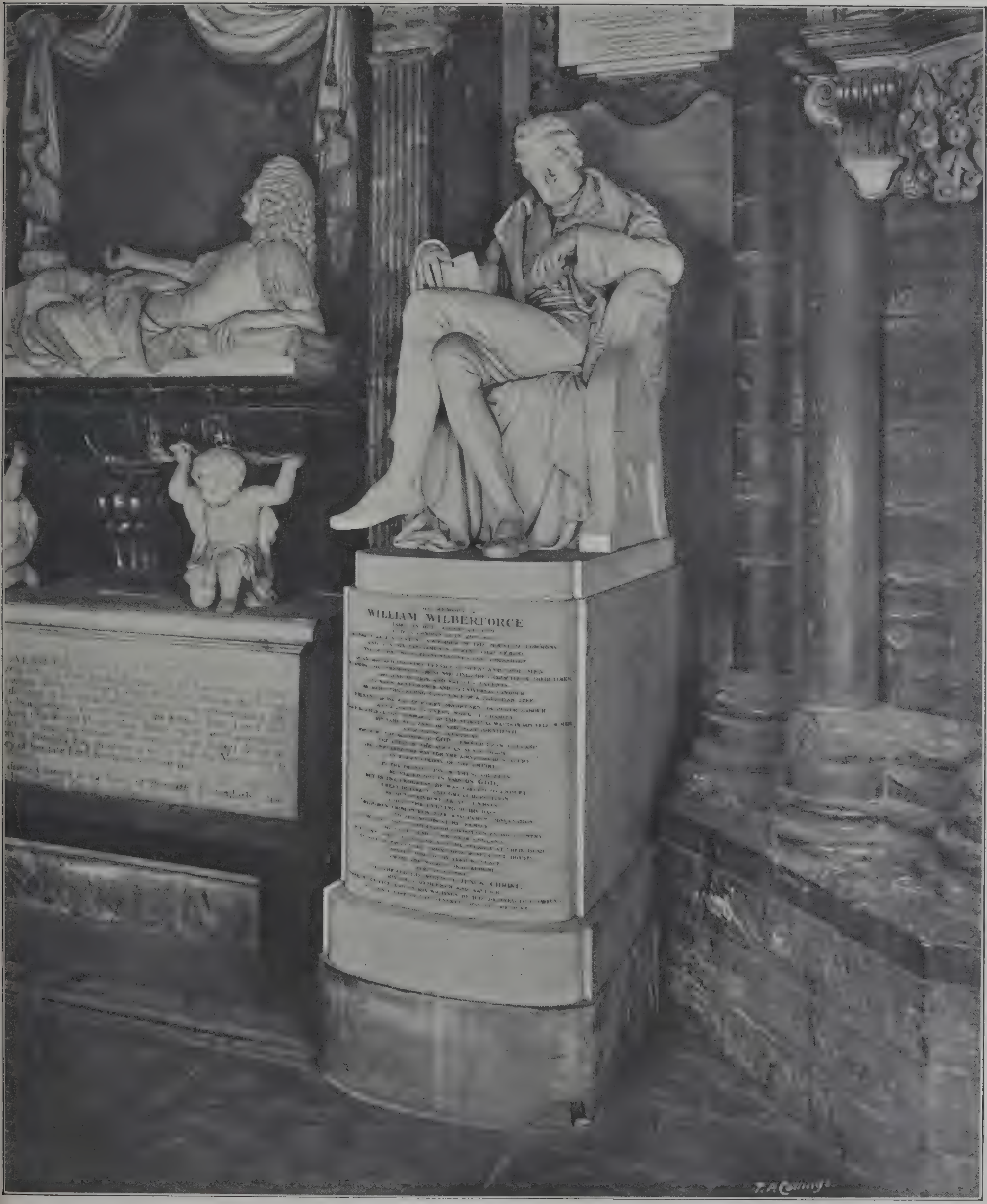

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INDEX.

Articles :—

- Aberdeen Society of Architects, 215
- American Architecture, Influence of French School on, 29, 53
- Archæological Discoveries in Egypt, 269
- Archæological Research in Crete, 239
- Archæology, Development of, 127
- Architects and Builders, 46
- Architects and Local Authorities, 164
- Architects' Benevolent Society, 175
- Architect's Fees, 196
- Architects, Registration of, 254, 294
- Architectural Acoustics, 277, 305, 321, 337, 353, 369, 389

- ARCHITECTURAL ASSOCIATION—
  - Cast Iron, 83
  - Collegiate Buildings, Study of, 242
  - Colour Decoration, 289
  - Decoration of Churches, 209
  - Dinner, 367
  - Dome, the, as a Basis of an Architectural System, 51, 70
  - Egyptian Temples, 323
  - Exterior Treatment of Angles, 141
  - Small Houses, 180
  - Working-class Dwellings, 113

- Architectural Association of Ireland, 47, 134, 392
- Architectural Congress, 343
- Architectural Drawings in Glasgow, 292
- Architectural Society of Durham and Northumberland, 357
- Architecture in Sydney, 309
- Art, Commercial Value of, 371
- Art Enamelling on Metals, 23, 37
- Art Metal Work, 339
- Artistic Copyright, 150
- Artists' Benevolent Institution, 318
- Berks Archæological Society, 292
- Birmingham Archæological Society, 87, 427
- Birmingham New University, 279
- Bothwell Castle, 303
- Bradford Society of Architects, 88
- Bramwell, Sir F., 381
- Bristol Electrical Committee and Architect, 116
- Bristol Society of Architects, 47, 134, 184, 255, 367
- Bucks Architectural Society, 20
- Buddha's Tomb, 270
- Burne-Jones, Pictorial Art of, 63
- Caerwent Exploration, 45
- Cambridge Antiquarian Exhibition, 168
- Cardiff Castle, 382
- Christ's Hospital, 67
- City Improvements, 63
- Clay Library, a, 174
- Congress of Architects, 343, 417, 421
- Conway Castle, 184
- Cumberland and Westmoreland Archæological Society, 426
- Devon and Exeter Architectural Society 350
- Dumas and Doré, 16
- Dumbuck Discoveries, 327
- Dunkeld Cathedral, 382
- Durham Castle, 350

Articles—*continued.*

- Earliest Representative Art, 392
- Edinburgh Architectural Association, 375
- Egyptian Exploration, 317
- Electrical Generating Stations, the Designing of, 65
- Electricity and Engineering, 280
- Enfield, 365
- English and American Architectural Practice, 35
- English Furniture, 230, 244
- Exeter Cathedral, 232
- Ferguson, the late Mr. R. S., 158
- Flemish Art Guilds, 15
- Forum, Excavation in the, 195
- French Building Stone Industry, 254
- Furness Abbey, 31
- German Archæological Institute, Athens, 175
- Glasgow Archæological Society, 199
- Glasgow Institute of Architects, 79
- Glasgow Philosophical Society, 103
- Glasgow Royal Infirmary Competition, 55
- Good Taste, Influence of, 419
- Greek Fountain, a, 375
- Guildford and Compton, 342
- Hawick Archæological Society, 104
- Hebrews and Architectural Development, 387
- Henry VII.'s Chapel, 396
- Hera of Polycleitus, 411
- Holborn to the Strand, 349
- Hospital Construction, 259
- Italian Renaissance Detail. 204
- Kildare Archæological Society, 79
- Kingston Bridge, 294
- Lancashire and Cheshire Antiquarian Society, 411
- Legal Topics, 85, 102, 110
- Lichfield Church Extension Fund, 158
- Light and Air, 33, 55
- Lincoln's Inn, 227
- Liverpool Architectural Society, 338
- Liverpool Autumn Exhibition, 291
- London and Middlesex Archæological Society, 375
- London Building Act, 152
- London Memorials, 425
- London University, 31
- Mansergh, Mr. James, 286
- Mansions of Genoa, 20
- Memorial Slab, Christ Church, Dublin, 113
- Montillado, the Mayor of, 301
- Munster Bank, Dublin, 21
- Mural Painting in its Relation to Architecture, 18
- National Gallery, the, 333
- National Portrait Gallery, 87, 392
- Nature and Art, 356
- Niello Work, 132
- Norfolk and Norwich Archæological Society, 287
- Paintable England, 411
- Paris Exhibition, 69, 332, 424
- Parisian Tiles, 117
- Phœbe Hearst University, 177
- Prehistoric Trading, 375

Articles—*continued.*

- Preservation of Historic Monuments in India, 20
- Process Engraving, 273
- Quantities, Liability of Payment for, 205
- Reading School Board, 353
- Rhind Lectures, 166, 173
- Richardson, H. H., Method of, 157
- Richborough Castle, 280
- Roman Forum, 104, 109, 151
- Rome, Catacombs, 196
- Royal Glasgow Institute, 79

- ROYAL INSTITUTE OF BRITISH ARCHITECTS—
  - Ancient Lights, 189, 237
  - Blomfield, Sir A. W., on Church Building, 13
  - Cockerell, Professor W. R., 333
  - Election, 381
  - General Meeting, 40
  - Paris Exhibition, 125
  - President's Address, 99
  - Public Buildings, Protection of, 269
  - Royal Gold Medal, Presentation of, 398
  - Rylands Library, 62
  - Working-class Dwellings, 221
  - CONGRESS :—
    - Architect, Painter and Sculptor, Collaboration of, 401
    - Architecture, Education of the Public in, 421
    - Architecture, necessity for Official Control over, 398
    - Ideal City (Mrs. Basil Holmes), 405
    - Ideal City (W. D. Carol), 406
    - Ideal City (Stirling Lee), 408
    - Ideal City (Halsey Ricardo), 409
    - Ideal City (C. H. E. Milner), 410
    - Responsibility of Local Authorities in respect of Building By-laws, 417

- Ruskin Letters, 69
- Ruskin's Art Treasures, 126
- Ruskin's Surrey Homes, 109
- Ruskin's Will, 328
- St. Pancras and Battle Bridge, 149
- Seaton Delaval Hall, 40
- Sheffield Society of Architects, 189, 263
- Silchester Excavations, 411
- Society of Antiquaries of Scotland, 39, 119, 183, 254
- Society of Architects, 334
- Society of Arts, 46
- Society of Arts, Awards, 410
- Somerset Archæological Society, 311
- Statutory Registration, 47
- Stoneham, 391
- Surrey Archæological Society, 214
- Sussex Archæological Society, 213
- Temple of Hera, Argos, 168, 174, 196
- Thoresby Society, the, 426
- Treasurer's House, York, 310
- Unfamiliar Masterpieces of Italian Art, 359, 372
- Uriconium Exploration, 358
- Vandalism in Cyprus, 47
- Wallasey Improvements, 46
- Westminster Abbey in 1734, 257

Contract Reporter :—

- Aluminium and Iron, March 30
- American School Buildings, Jan. 5
- American Terminus, an, Feb. 1
- Architectural Association of Ireland Jan. 26
- Architectural Chaos in Manchester, Jan. 5
- Australian Industrial Legislation, April 13
- Australian Inland Rivers, April 20
- Birmingham Electric Lighting, June 1
- Birmingham I.C.E. Students, Feb. 9
- Birmingham Mechanical Engineers, Jan. 12
- Blackpool Health Exhibition, March 30
- Brighouse Railway Improvements, May 4
- Bristol Master Builders' Association, Feb. 9, 16
- British Fire-Prevention Test, Feb. 9, March 30, April 27
- British Opal Wall Glazing, June 8
- Builders' Contracts and Arbitration, March 9
- Building in New South Wales, June 1
- Building Stones and Stone Cutting, Jan. 26
- Building Trade in Scotland, April 20
- Building Trades Gift to the Nation, Jan. 19, 26, Feb. 2, 9, 16, March 2, 9, 23, April 6, 13, May 4, 11, 18, 25, June 8, 15, 29
- Buildings, How to Study, June 22
- Cape Town Building Dispute, Jan. 15
- Cardiff, New School, Jan. 19
- Carpenters' and Joiners' Union, May 18
- Chester Castle and Walls, Feb. 9
- Church Building Society, Feb. 23
- Clayton Hall Restoration, April 13
- Clerks of Works Association, Feb. 23
- Clydebank Municipal Buildings, June 29
- Colour in Architecture, April 6
- Contract, Alleged Breach of, April 13
- Contractors and Sub-contractors, April 6
- Cottage Building, May 18
- Criterion Buffet, Jan. 26
- Diaries for 1900, Jan. 5
- Disinfecting Water Mains, April 6
- Dover Harbour Explosion, May 4
- Dublin Electric Lighting, April 6, June 22
- Dublin Master Builders' Association, Feb. 16
- Dundee Winter Garden, Feb. 9
- Earl's Court Exhibition, Feb. 9
- Eccleston New Church, June 1
- Edinburgh Fire-station, June 15
- Electric Light and Power, Leeds, March 2
- Electric Light, Development of, March 16
- Electric Lighting in Rathmines, March 30
- Electric Lighting, Progress of, March 23
- Engineering Timber, Feb. 16
- English and Foreign Electrical Engineering, Jan. 19
- Farnham Infirmary, May 18
- Farnworth Electric Lighting, April 13
- Fire-escapes, April 13
- Folkestone New Harbour, Jan. 5
- Gaiety, the New, March 9

Contract Reporter—*continued.*
Gas Exhibition, Jan. 19
G.P.O. New Building, June 1
Glasgow Archæological Society, Jan. 26
Glasgow Gasworks, June 1
Gloucester Electricity Supply, Jan. 19
Gloucester Engineering Society, March 30
Gloucester Public Library, June 8
Glover's Saw Guard, Feb. 16
Gordon's Birthplace, Feb. 2
Government Inquiries, Cost of, May 18
Granton Gasworks, May 25
Great Central Railway Extension, March 30
Greenwood's Patent Pipes, June 15
Hanging Bridge, Manchester, March 30
Hayward-Tyler's New Junction Boxes, March 30
Healthy Factories, March 2
High Buildings in New York, June 15
Housing the Working Classes, Feb. 2, April 27
Hull Improvement Scheme, June 29
Illicit Commissions, March 9
Incorporated Church Building Society, May 25
Incorporated Society for Promoting the Enlargement, Building and Repairing of Churches and Chapels, March 23
Institution of Civil Engineers, Feb. 16, April 20
Institution of Heating and Ventilating Engineers, May 18
Institution of Junior Engineers, April 13
Institution of Surveyors, April 27
Iron and Steel in 1899, Jan. 12
Iron and Steel Institute, June 22
Ironmongers' Federated Association, Jan. 26
Johannesburg Electric Lighting, April 20
Kensington, Widening of High Street, Jan. 12
Kirklee Bridge, Jan. 26
Labourers' Cottages in Ireland, Jan 5
Laundry Exhibition, May 4
Llandudno Improvements, April 27
London Water Intercommunication Scheme, May 25
Luddenden Foot Sewerage Scheme, March 2
Manchester Improvements, March 2
Manchester Ship Canal, Jan. 5
Manchester Tramways, June 15
Marlborough College Extension, Feb. 16
Marriage's Suspension Burners, Jan. 12
May's Electric Fire Alarm, May 11
Melbourne's First Surveyor, March 23
Municipal Buildings at Clyderbank, June 29
Municipal Cottages, Brighton, June 22
Municipalities and Electric Works, June 22
National Association of Master Plumbers, March 9
National Association of Sanitary Inspectors, Feb. 9
National Federation of Builders' Employers, Jan. 19
National Registration of Plumbers, Feb. 23, March 16
New Chapel, Maybury, Surrey, March 2
New Gordon Home for Boys, May 25
New River Subway, May 25
Non-flammable Wood, April 27
Northern Architectural Association, March 23
Nottingham Master Builders' Association, Feb. 16
Ordnance Surveyor, March 23
Parish Water Supply, Feb. 2
Paris Exhibition, June 29
Paviors' Company, April 27
Payment for Plans, Feb 9
Picketing, Law as to, March 9
Plumbers, National Registration of, May 4
Purification of Waste Water, Jan. 19
"Refrax" Glass, Jan. 19
Railway Collisions and Fires, June 22
Refunding Overpaid Money, Feb. 16
Roads, Improvement of, May 25
Rotherham Electric Lighting, April 6
Rotherham Public Works, April 13
Royal Infirmary, Edinburgh, Feb. 2
Royal Institute of Public Health, May 4
Rugeley Sewerage Scheme, March 16
Rushill Hospital, June 22
St. John's Cathedral, Great Arch, April 13
St. Leonard's Church, Mundford, Feb. 16
Sales of Building Land, June 22
Sanitary Inspectors' Diploma, Jan. 19
Sewer Ventilation, Jan. 5

Contract Reporter—*continued.*
Sheffield Master Builders' Association, March 30
Ship Weather-Vane, March 16
Shirley Warren, New Infirmary, April 6
Society of Engineers, Feb. 9, March 9, May 11, June 22
Specifications for Steel and Iron, June 8
Stafford Guildhall Improvement, Jan. 19
Staines Reservoirs, June 29
Steam Laundry, the, April 27
Steel Skeleton Structures, Casing of, Jan. 12
Stirling Railway Station, Jan. 19
Stockport Workhouse Extension, Feb. 23
Swing Bridges, Feb. 2
Tendering, Rules for, June 15
Ventilation of Large Buildings, March 23
Wakefield Cathedral, Feb. 16
Warehouses in Glasgow, June 22
Wood and Asphalte Pavements, May 11
Workmen's Compensation, Feb. 2, 23
Yarmouth Master Builders' Association, Jan. 5
Year's Building in the North, Jan. 5
York Electric Lighting, March 2
Yorkshire Building Trade, Jan. 19
York Station Improvements, May 11

Correspondence :—
Ancient Monuments Bill, 296
Blue Lias Lime, 104
Building Trades Gift to the Nation,* Jan. 12, March 16
Disfigurement of Provincial Streets, 344
Dumfries and Maxwelton Library, 119
London Street Paving, 344
Minley Manor, 72
Paris Exhibition, Accident, 344
Public Health Act, 360
St. John's, Leverington, Window, 200, 216
St. Stephen's School, 312
Sewer Ventilation,* Jan. 19
Walmisley, H. B., 120
War Office and James Stiff, 343

General :—
24, 40, 56, 72, 88, 104, 120, 136, 152, 168, 184, 200, 216, 232, 248, 264, 280, 296, 312, 328, 344, 360, 376, 392, 412, 428

Illustrations in Text :—
Albany, City Hall, 157
All Saints, Bedford, 13
All Saints, Kensington Park, 97, 98
All Saints, Margaret Street, 161, 163
Architectural Acoustics, 305, 306
Boston Music Hall, Old and New, 390
Camberwell Theatre (Plan), 80
Cathedral Church, Plan of, 156
Cathedral of the Holy Spirit, 225
D'Artagnan, 17
Dumas, Readers of, 16
Holy Trinity, Westminster, 81
Keble College Chapel, 146
Law School (Richardson), 157
Leipzig Gewandhaus, 390
London Bridge, 12 (Supplement 1, 2, 3)
Munster Bank, Dublin, 21
Norman Arches, 94
Phœbe Hearst Memorial, 178, 179
St. Alban's, Holborn, 146, 193, 225
St. Augustine's, Queen's Gate, 163, 194
St. Augustine's, Ramsgate, 387
St. Barnabas, Oxford, 14
St. Editha, Tamworth, 147
St. John Evangelist, Hammersmith, 193
St. Mary's, Stoke Newington, 129, 130
St. Mary's, Strood, 14
Westminster Abbey, 421

Leading Articles :—
Ancient Monuments, Protection of, 266
Archæology in Ireland, 106
Archbishop Laud and British Cathedrals, 43
Architects and Clients, 348

Leading Articles—*continued.*
Architectural Composition, 122
Architectural Practice in Canada, 91
Architecture at the Royal Academy, 282, 298, 315
Architecture in 1899, 3
Artisans' Dwellings, 154
Artistic Copyright, 250
Barry, Charles, 362
Burges, 139
Burton, Sir F. W., 186
Butterfield, William, 138
Congress Library, Washington, 379
Drew, Sir Thomas, 346
Dublin in 1861 and 1900, 218
Electrical Industry in 1899, 6
Electric Arc Lighting, 285
Electricity Supply Authority and the Public, 363
Flemish and British Art, Exhibition, 27
Garden Making, 251
George Eliot, Vasari and De Cosimo, 123
Gothic Art in England, 90
Greek Architecture, 188
Guildhall Exhibition, 234
Hampstead and its Associations, 363
Institute of Painters in Water-Colour, 202
Kimberley *v.* Dick & White, 76
London Bridge (Supplement), 1
London in 1700, 61
Michel Angelo, Letters of, 219
New City and the Old, the, 416
New Gallery, the, 267
Ottawa Fire, the, 283
Our Norman Builders and their Works, 74, 93
Painting at the Royal Academy, 299, 316
Quantity Surveyor's Legal Position, 202
Retrospect, a, and a Prospect, 2
Romney Exhibition, the, 314
Ruskin, John, 58, 331
St. Peter's, Rome, 107
Sculpture at the Royal Academy, 331
Stained Glass in England, 49, 81, 97, 129, 145, 161, 193, 225, 241, 385
Stair Building, 155
Symbolic Buildings, 394
Théâtre Français, 171
Ulysses, Raft of, 234
Vandyke Exhibition, 10
Wallace Collection, the, 414
Water-Colour Society's Exhibition, 284
Westminster Abbey, 8, 26, 43, 170, 379

Legal :—
Berghtheil & Young *v.* Stewart, 89
Byrne & Warman *v.* Ward, 73
Carritt *v.* Godson, 105
Clarke *v.* Edwards & Medway, 352
Grant *v.* Langston, 345
Kimberley *v.* Dick & White, 77
Leslie *v.* Metropolitan Asylums, 248
Millar & Beatty *v.* Freedman, 48
North *v.* Bassett, 413
Pappa *v.* Rose, 96
Percival *v.* Gardiner, 338
Restell *v.* Nye, 57
Robinson *v.* Mayor of Bristol, 281
Scott *v.* Carritt, 41
Simpson *v.* Fehr, 73

Notes and Comments :—
Abbeys around London, 64
America, Building in, 48
American Building Law, 144
Appellants, Manual for, 224
Architects' Diaries, 32
Architectural Association Banquet, 304
Archivio Buonarroti, 144
Aubervilliers Church, 272
Australian Timber, 384
Avebury, Lord, 64
Avenue Theatre, the, 336
Bargate, Southampton, 402
Birmingham Banks, 48
Blackfriars, Discoveries, 304
Bonnat's (M.) Gift to Bayonne, 320
Builders in Australia, 160
Building Case, Edinburgh, 192
Building Sites, 384
Cape Architecture, 176
"Cathedral Series" in *The Architect*, 352
Central London Railway, 420
Chichester Churches, 352
Church of the Assumption, Paris, 320
Clarke *v.* Edwards & Medway, 352
Deas, the late James, 12

Notes and Comments—*continued.*
Dublin Labourers' Cottages, 402
Dubois, Mons. D., 304
Fireproofing Scenery, 208
Franz Hals' Statue, 402
French Explorations in Algeria, 96
Haag, Carl, 272
Hall-i'-th'-Wood, 32
Heidelberg, 160
Hildesheim Corona, 278
Holborn-Strand Street, 64
Hull Town Hall Competition, 32
Insanitary Dwellings, 420
Israels, Joseph, 224
John Stewardson Scholarship, 160
Louvre, Fire at the, 64
Medailles d'honneur, Paris, 368
Millar & Beatty *v.* Freedman, 48
Montmartre, 112
Mount Pentelicon Quarries, 128
New Old Bailey, 368
Niebuhr, 176
Ottawa Fire, the, 336
Pappa *v.* Rose, 96
Paris Art Lectures, 368
Paris Exhibition, 48, 64, 144, 288
Paris, G. de, 240
Paris, Grand Prix, 192
Paris, New Mortuary, 272
Paris Trees, 64
Parsons on Railways in China, 96
Pastel Society, the, 96
Percival *v.* Gardiner, 336
Pictures in Law Courts, 112
Pitt-Rivers, the late General, 304
Potomac Bridge Competition, 288
Professor Sixt, 112
Public Health Department, 256
Quai d'Orsay Terminus, 80, 368
Richier, Ligier, 32
Rival French Salons, 32
Rothschild's Gifts to the Louvre, 224
Royal Archæological Congress, 402
Rue des Prêcheurs, 128
St. Maria, Rome, 48
St. Meletios Chapel, 96
Salisbury Plain, 352
Salon, 176
Sanitary Institute Certificates, 144
School Inspectors, 256
Scottish Society of Surveyors, 224
Shettleston New Church, 128
South African Association of Engineers, 240
South African War, Paintings of, 192
Stiff & Son, James, 320
Surveyor's Fees, 80
Symons, Major T. W., 208
Symons, the late G. J., 176
Technical Education, Cost of, 160
Technical Education in Geneva, 224
Tenant's Fixtures, 384
Tenniel's (Sir John) Drawings, 288
Théâtre Français, 402
Toronto Guild of Art, 352
Ulysses, Castle of, 256
Upper Norwood Athenæum, 12
Workmen's Compensation, 128, 420
Workmen's Dwellings, 112

Reviews :—
Abbeys around London, 64
Art and Craft of Garden Making, by Thomas H. Mawson, garden architect, illustrated with perspective views drawn by Mr. C. E. Mallows, &c., 251
Bruges: An Historical Sketch, by Wilfrid C. Robinson, 139
History of Gothic Art in England, by Edward S. Prior, M.A., with illustrations by Gerald C. Horsley, 90
Popular County Histories: A History of Surrey, by Henry Elliot Malden, M.A., 395
Principles and Practice of Modern House Construction, including Water Supply and Fittings, Sanitary Fittings and Plumbing, Drainage and Sewage Disposal, Warming, Ventilation, Lighting, Sanitary Aspects of Furniture and Decoration, Climate and Situation, Stables, Sanitary Law, &c., edited by G. Lister Sutcliffe, 77
Principles of Architectural Composition, by John Beverly Robinson, with introduction by Russell Sturgis, 122
Ruskin, John, by Mrs. Meynell, 331
Some Old Masters of Greek Architecture, by Harry Douglas, 188
Sweet Hampstead and its Associations, by Mrs. Caroline A. White, 363

* Contract Reporter.

Reviews—*continued.*
A Treatise on Stair-building and Handrailing, by William Mowat, M.A., and Alexander Mowat, M.A., 155

Tesseræ:—
Ancient Allegorical Figures, 143
Ancient Contract Deeds, 246
Ancient Theatres, 263
Anglo-Saxon Runes, 312
Arch, Absence of the, in Egypt and Greece, 159
Architecture, Abstraction in, 383
Architecture, Appreciation of, 207
Architecture, Criticism of, 319
Architecture, Supremacy of, 24
Architecture, Systematic Study of, 56
Architecture, Triangle and Proportions in, 207
Art and Progress, 88
Art in the Fifteenth and Sixteenth Centuries, 296
Art, Progress of, 247
Art, Rules of, 318
Battlemented Walls, 264
British Bricks, 318
Brunelleschi, Filippo, 428
Building Restrictions, 351
Burma, the Ananda Temple, 24
Capital, the, 311
Charlemagne and Architecture, 135
Colour, Perceptions of, 143
Colours, the Power of, 264
Constable, John, and Suffolk, 375
Constantinople, Foundation of, 335
Cyclopean Remains, 296
Decorated Glass, 199
Doric Abacus, the, 248
Doric Column, the, 271
Druidic Settlements, 376
Du Cerceau, Drawings by, 271
Dyce and Le Strange, Frescoes, 271
Earls Barton and Whiston Churches, 142
Early Bells, 247
Early Byzantine Churches, 136
Early Mosques, 95
Egyptian and Greek Scales, 135
Egyptian Hieroglyphics, 134
Egyptian Influence on Greek Architecture, 143
Emblematic Fish, 351
English Place-Names, 263
Epidaurus, Theatre of, 383
Figure, Proportions of the, 263
French and English Churches, 223
French Châteaux, 263
French Mortuary Chapels, 271
Gable Crosses, 295

Tesseræ—*continued.*
Gallery of British Honour, 295
Glazed Tiles, 335
Gothic Buildings, Colour of, 55
Gothic Cramping-Irons, 88
Greek and Roman Craftsmen, 312
Greek Churches, 295
History in Buildings, 95
House Painting, 223
Houses of Fellaheen, 376
Indian Figure Sculpture, 200
Italian Brickwork, 247
Italian Building Corporations, 319
Language of Art, the, 135
Lead Statues in Piccadilly, 376
London Porticoes, 136
Mechanical and Decorative Construction, 207
Mediæval Mason's Work, 23
Mediæval Sculpture, 199
Mediæval Vaulting, 318
Monumental Sculpture, 351
Mystic Symbols of Holy Tree, 143
Norman Walling, 311
Old English Church Building, 335
Old English Cottages, 247
Old St. Paul's, 375
Orders, the, 95
Organ Fronts, Symmetry of, 223
Painting and Music, 56
Painting, Personal Element in, 351
Parthenon, the, 55
Parvise, the, 247
Pictures, Size of, 95
Pistrucci's *St. George*, 263
Pliny's Villa, 376
Pompeii, 216
Popular Art, 159
Porticoes, Aspect of, 262
Prehistoric Archæology, 262
Price Family as Glass Painters, 271
Pyramids of Dashhour, 264
Queen Anne's Churches, 351
Raphael's *Beautiful Gate*, 207
Renaissance Detail, 428
Reynolds as a Costume Painter, 334
Roman Buildings, 56
Roman Culture in Northern Europe, 200
Roman Emperor's Busts, 143
Roman Farm Buildings, 335
Rome Campagna, 383
Rome, Early, 383
Rome, House of Augustus, 88
Roof Coverings, 135
Saxon Dwellings, 248
Saxon Fonts, 223
Stonehenge, Construction of, 318
Town and Country Houses, 56
Tumuli at Kertch, 24
Vanbrugh's Haymarket Theatre, 428
Van Eycks, the, 223
Walpole, Horace, and Gothic Churches, 159
Wicar Collection, the, 135
Wilkie, David, 142
Wilson's (Richard) *Figures*, 24

The Week:—
Académie des Beaux Arts (Election), 393
Accidents on Public Roads, 25
Alexander II., Statue of, 89
American Society of Civil Engineers (visit to London), 73
Architects' Congress, 377
Architects' Fees in Ireland, 73
Architecture at American Colleges, 1
Argyll, the Duke of, 265
Ary Scheffer, 1
Auction Sales in Paris, 249
Balls Bridge, 185
Baltimore Federal Building, 41
Beightheil & Young *v.* Stewart, 89
Bénard, M., 121
Billoré, M., 121
Birmingham Meat Market, 89
Bristol, Municipal Buildings, 265
Brydon, Mr. H. J., 153
Building in Bangkok, 297
Building in Glasgow, 153
Byrne & Warman *v.* Ward, 73
Cardiff Co-operative Congress, 361
Carritt *v.* Godson, 105
Carthage, Excavations at, 137
Chesterfield, 217
Christian Archæology Congress, 201
Consumption, Open-air Treatment, 233
Contractors and Sub-contractors, 217
Copyright (Artistic) Bill, 393
Delacroix, Eugène, 73
Doolin, Mr. Walter, 201
Dublin, Death Rate, 121
Dublin Improvements, 217
Dublin, Statue to the Queen, 297
Eastbourne Municipal Buildings, 377
Edinburgh Building Trades Exchange, 105
English *v.* Foreign Building Materials, 377
Euston Station Enlargement, 313
Falguière, the late J. A., 265
Ferrey, the late Benjamin, 265
Flats Law, 217
Fontevrault Abbey, 73
Founders' Company Competition, 121
Gauchez, Léon, 25
Geodetic Observations, 377
Glasgow Exhibition, 313
Gold Ornaments in British Museum, 393
Government Contracts, 57
Grant *v.* Langston, 345
Great Seal, the, 345
Grove, Sir George, 345
Harling's Instruments, 249
Heaviest Locomotive, 105
Hertford House, 393
Hexham Abbey Restoration, 25
Hollymoor Asylum, 413
Insanitary Areas, 169
Irish Architects and the Queen's Visit to Dublin, 169
Lambert, Eugène, 329
Landscape Architecture at Harvard University, 217

The Week—*continued.*
Law School and Library, 361
Liverpool Electric Express, 329
Livingstone Memorial, 313
Lockhart, the late William E., 105
London County Council Estimates, 413
London County Council Improvements, 233
Mersey, Bridge over the, 201
Metropolitan Water Report, 57
Munkaczy, Michael, 281
Mytens' Portrait of Charles I., 1
National Gallery, Danger of Fire, 361
National Photographic Record Association, 169
New Old Bailey, 413
New Sessions House, 393
North *v.* Bassett, 413
Orvieto Cathedral, 41
Ottawa Fire, 281
Oxfordshire Asylum, 329
Paris Architectural Competition, 281
Paris Exhibition, 41, 185, 233, 249, 281, 329, 413
"Parvis," 185
Petrie, Dr. W. M. F., 377
Plaster Casts in Paris, 153
Plumbers' Registration, 313
Raymondo, Lombardo, 89
Restell *v.* Nye, 57
Robinson *v.* Mayor of Bristol, 281
Royal Society of Antiquaries of Ireland, 297
St. Anastasia, Verona, 361
St. Germain des Près, 313
St. John's Churchyard, 153
St. Patrick's Cathedral, 249
Salford Electrical Engineer, 297
Salins de Montfort, 297
Salon, the, 201, 377
Scaffolding and Workmen's Compensation, 201
Scott *v.* Carritt, 41
Sedille, the late Paul, 25
Sepulchral Slabs, 313
Simpson *v.* Fehr, 73
Society for Encouraging Public Art, 41
South Kensington College of Art, 137
South Kensington, Pictures at, 137
Stott, the late William, 137
Strand to Holborn, 121
Surveyors' Fees, 413
Surveyors' Institution, 233
Sydney Harbour Bridge, 121
Théâtre Français, 185
Tonbridge Castle, 361
Vaughan Bequests, 1
Venus of Melos, 153
War Memorials at Portsmouth, 345
White, the late William, 57
Widnes and Runcorn Bridge, 329
Working-class Houses, 185
Workmen's Compensation Act, 25, 137 169, 233, 393
Workmen's Compensation in Paris, 57
Worthing Improvements, 361
Wren, Sir C., in Ireland, 329

INDEX OF ILLUSTRATIONS.

*** THE LITHOGRAPHED ILLUSTRATIONS WILL BE FOUND OPPOSITE TO THE PAGES QUOTED.

Albion Hotel, Liverpool, 160
Anne Hathaway's Cottage, 144
Banqueting Hall, Prize Design, 48
Beckenham, Houses at, 208
Bryanston, Dorset, 12, 32
Building Trades Gift, 402
Camberwell Palace of Varieties, 80
" Cauliflower," Ilford, 64
Cecil Rhodes Statue, 368
Cottages, Port Sunlight, 240
Dumfries and Maxwelton Public Library, 128
East Putney, House at, 176
Entombment, the, 240
Feathers, the, King Street, 288
Fernleigh, Nottingham, 192
Holmclose, Isle of Wight, 326
Imperial Hotel, Hereford, 336
Institute of Mechanical Engineers, 336
Italian Hospital, Queen's Square, 384, 402
King's Head Hotel, Hereford, 336
Leutonhurst, Nottingham, 192
Lincoln, Architectural Additions, 368
Linen and Woollen Drapers' Homes, 80, 96, 112
London and Provincial Bank, Hackney and Newington Branches, 176
London Bridge, 12
London County Council Weights and Measures Office, 288
Manchester Tramways, 304
Masonic Temple, Holborn Restaurant, 320
Minley Manor, 12, 32, 64
Newington Public Library, 288
New Laundry, Holborn Union Schools, 208
New Sessions House, 420
Oulton, Residence at, 144
Palace of the Emperor of Corea, 272
Reigate, House at, 208
R.M.S. *Oceanic*, 12, 48, 402
Rylands Library, 304, 320
St. Gabriel's College, 112
St. John's Chapel, Matlock, 96
St. John's Library, Hampstead, 256
St. Olave's Grammar School, 224, 256
St. Veronica, 240
Screen and Altar, Little Stanmore, 64
Selected Designs for the New Sessions House, Old Bailey, 420
Shillingford Hill, 112, 144, 224
Shoreditch Free Library, 288
Swansea Road Board School, Reading, 352
West Ham Technical Institute, 160
Westminster Abbey, 64, 80, 96, 112, 128, 144, 160, 176, 192, 208, 224, 240, 256, 272, 288, 304, 320, 336, 352, 368, 384, 402, 420
Woodgate, Sutton Coldfield, 128

ARCHITECTS AND ARTISTS.

Bidlake, W. H., 128
Boney & Wainwright, 64
Bourchier & Galsworthy, 176
Briggs & Godsell, 336
Champneys, Basil, 304, 320
Collcutt, T. E., 320
Cutler, T. W., 384, 402
Dawber, E. Guy, 96
Devey, the late George, 12, 36, 64
Fellowes Prynne, E. A., 240
Fetch, Ernest E., 176
Gamble, H. G., 368
Gibbons, John, 304
Gibson & Russell, 160
Godsell, G. H., 336
Grierson, F. G., 128
Harding, J. R., 272
Hare, H. T., 288
Hornblower, George, 80, 96, 112, 144, 224
Hutchins, A. B., 176
I'Anson, E. B., 288
Marshall, Arthur, 192
Mountford, E. W., 224, 256, 420
Newman, F. Winton, 48
Robb & Grierson, 208
Robert, Sawyer, 288
Robson, Philip A., 112
Rüntz, Ernest, 12, 32
Sachs, Edwin O., 402
Salmon, C. E., 208
Shaw, R. Norman, 12, 32, 48, 402
Slade, Basil, 336
Street, W. C., 144, 336
Taylor, Arnold S., 256
Tweed, John, 368
Vaughan, C. E., 208
Waterman & Lewis,
Watkins, W., & Son, 160
Webb, G. W., 352
Wilson & Talbot, 240
Woodrow, Ernest A. E., 80
Young, P. F., 144

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